NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE AND ITS KINDRED ARTS AND SCIENCES.

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SUGGESTED BY "MARCH."

"If now in beaded rows, drops deck the spray,
While Phœbus grants a momentary ray,
Let but a cloud's broad shadow intervene,
And stiffened into gems the drops are seen,
And down the furrowed oak's broad southern side
Streams of dissolving rime no longer glide.

Though night approaching, bids for rest prepare,
Still the flail echoes through the frosty air,
Nor stops till shades of deepest darkness comes
Sending at length the weary laborer home."

BLOOMFIELD'S *Farmer's Boy.*

FEW of our agricultural friends, perhaps, can say that their initiation into the mysteries of farm-work was altogether attractive, or their experience of rural life, and the routine of domestic duties, such as to inspire them with any very vivid ideas of farming as a pursuit; and this may as safely be said of most of the other avocations of life. Most boys have a constitutional horror of soiled hands, and the employment of heaping up stones in the stubble fields, weeding corn and dropping potatoes, is of a nature to aggravate, rather than to flatter this superfine taste.

But where is the man—no matter what may be his position or influence in society—who does not look back upon the days spent upon the old homestead, with feelings of mingled pleasure and regret? Has after-life, with all its brilliant realizations, furnished him with that calm and quiet fullness of delight, which, without the lassitude consequent upon satiety of the world's pleasures, he tasted in the rural shades of his rural home? And it is to that point of the heart and its affections that he turns in after years with feelings of the most fervent delight.

The physical and moral training which he received in that old homestead, prepared him for the field of active labor in which he has since been so profitably employed. While he has gone on strengthening his resources by the acquisition of new ideas, he has perpetually been reminded of the advantages he enjoyed while under the discipline of teachers whose lessons were the lessons of experience, and whose schoolroom was the field.

We think it was M. l'Abbe Raynal who remarked that America had not produced a single man of genius. From this imputation it was, at the time, difficult to escape. But the case is now different in its aspects. Our literature is rapidly expanding and purifying itself, and has already become a vital force, if not a principal *motor* in our national mechanism. Men of talent and men of genius have graced its annals—not the mere hot-house plants of

> "Those institutions in whose halls are hung
> Armor of the invincible knights of old,"

but the noble, sun-matured, toil-hardened productions of the field—men whose childhood was familiar with the plow, the scythe and the woodman's axe, and who could leap the rainbow of the brook, and "swim and reswim streams" in companion with which the "broad Hellespont" of Leander is but as a pool produced by a summer shower. We are not, perhaps, so sensible of the advantages we possess, as we should be. With a literature ready-made to our hands, we have not to contend with obstacles such as for a long time

discouraged the aspiring genius, and impeded the progress of the masses in other lands.

France, if we except the ballads of the Troubadours and Trouveres, was entirely destitute of a stock either of literature or legends, to commence with; and the literature of England—the literature which we now enjoy—was fated to struggle up through the chaos of Anglo-Saxon, Norman, French and Monkish Latin. The young farmers of New England possess, at this day, advantages of the most inviting kind. Our literature is ample, and while its cheapness brings it within the reach of every one, the long evenings of winter afford abundant opportunity for study and improvement.

The science of agriculture may properly be regarded as a *group* of sciences, the theories and applications of which the farmer must understand, if he would be master of his profession. He should possess some knowledge of chemistry, that he may understand the constituency and treatment of soils, and the composting and use of manurial agents. He must also be something of a botanist, physiologist and physician, that he may be able to manage his animals properly, and treat them well, in health and in sickness. He should also be something of a mechanic, and be versed in the principles of motive power, as well as possess some knowledge of hydrostatics and hydraulics.

While agriculture is free from many of those corroding and sickening perplexities which obstruct the path of the lawyer, the doctor and the merchant, and does not necessarily demand more severe physical effort than the mechanic is called to exert, it does emphatically require that he who would successfully engage in it should possess as much intelligence, patience, perseverance, good sense and sound judgment, as those engaged in any other profession or pursuit. These qualities of mind are no less essential to him, than the virtues of industry, perseverance and sobriety.

He must be a *thinker*, as well as a doer. As his labor is no more irksome than those which are imposed upon men in other pursuits, he has pleasures, bestowed upon him by the nature of his duties, which are not to be found in other avocations. He enjoys greater freedom, and more relaxation of body and mind, than the denizen of the crowded and dusty mart, who, confined to sultry streets, during a great portion of his existence, and excluded from a communion with nature and her sweet influences, is dependent upon the masses for support—sighing often for that repose which is denied him, and for the bland and blessed influences of the "balmy air" which he is destined seldom to inhale.

Perhaps no man ever wrote more feelingly, and at the same time, more truly, of rural life, and its enjoyments, than the poet BURNS. Bred himself to the pursuit of agriculture, and familiar with all its details—the most minute as well as the most complex—he touched the lyre of song with a master's hand, and a soul inspired by the purest love. Let those who would beget and cherish in their breasts a passion for rural pursuits, study the pages of ROBERT BURNS; they will there find pictures valuable for their truthfulness, as well as for the exquisite taste and beauty exhibited in their finish.

For the New England Farmer.

HOW CAN WE BEST SECURE THE DURABILITY OF FENCE POSTS?

Purposing to set some posts for fence, bars or gates, my thoughts naturally revert to past experience, and the views of others I have met with at various times, as to the most proper method of preparing posts in order to secure the greatest durability of material used.

When in my teens, I got out for my father five sets of bar posts from green yellow oak logs. Each log was sufficiently large to split into two posts, and long enough to change ends when the end first in the ground rotted off. These posts were made during the winter, and, (save one,) set the following spring, consequently not much seasoned. I took especial care to keep each set together, by marking them, as all were from the buts of trees, and I wished to test them in various ways.

The first set, I put but end in the ground, charring one, the other not. The second set, but end in the ground; in one, I bored an inch and a half hole just above the surface of the ground, and filled with salt, plugging up the hole. The third set, one post but end in the ground, the other, the small end. The fourth set, small ends in the ground, one salted, the other not. The fifth, I used but one of the oak posts, putting in a pine slab for the other, to test their comparative durability. The oak was salted, and but put in the ground.

Result.—The first two posts both rotted off, the third year after they were set. The small ends were then set in the ground, and lasted seven years. The second, the salted post, gave out the second year, the other the fourth; the ends were then reversed, and lasted about eight years each, after being reset. The third set, the but rotted off the third season, the other the fourth; the ends were then reversed, and the but end of the last one gave out previous to the small end of the other, although the other had been in the ground a year the longest. The fourth, both rotted off the fourth season, and the buts lasted the same length of time. The fifth stood five years, and were removed, and I lost the run of them.

Inferences.—It did no good to char the post; it lasted no longer than his mate. It is an injury to salt green posts; the one not salted lasted two seasons the longest. The small end of a post will last longer than the but.

When seasoned, posts last longer than when set green. In the fourth experiment, we see the

small end was set green, and lasted but four seasons, while some of the others that had been seasoned, lasted seven and eight years. Although the buts of the fourth set had been seasoned, yet we see they lasted but four years, or about one-half as long as the small ends of some of the others.

These results, I am aware, are contrary to the opinion of many writers, and the practice of many farmers. But there they are, and if of any value to the readers of the *Farmer*, they are welcome to them. Mr. Todd, the author of the "Young Farmer's Manual," contends there is no ground for the opinion that a post will last longer when placed in a reversed position from that in which it grew. (See his article in *Country Gentleman* for 1858, page 323.)

He recommends a mixture of equal parts of coal, tar and pitch, applied hot, to posts, as being far more effectual in rendering them durable than any kyanizing that has yet come to light. However this may be, it will not be amiss for those who set posts to give his recommendation a fair trial. I am in want of information on this subject. Will some of the readers of the *Farmer* let us have facts bearing on this point.

Rochester, Jan. 16, 1861. R. O.

REMARKS.—These are such facts as farmers need. Brethren, let your light shine.

THE KINDLING WOOD BUSINESS.

It may, to some, seem like a small matter to hunt up the statistics of the amount of kindling wood required by the community, but the business of supplying the kindlings for a city like New York or Boston is of no small importance. We have not at hand the means of ascertaining its extent in this city, but from observation know it to be large. The New York *Commercial Advertiser*, which, for some time past, has been publishing highly interesting statistics of the various trades and kinds of business in that city, gives the following account of the traffic in kindling wood:

It is about five years since this trade became a distinct business, and the peripatetic vender of fat pine found himself and basket laid upon the shelf by the energetic wood-cartman. The trade has now assumed an importance commensurate with the growth of the city; employing the energies of fifteen large establishments, and an extensive moneyed and real estate capital. The Nestor of the trade is Daniel Nash, whose firm, the Accomac Wood and Kindling Company, employ a capital of nearly a hundred thousand dollars. Their building occupies the block on Eleventh Avenue, Twenty-seventh and Twenty-eighth Streets, where their wood is stored and prepared for use. They draw their supplies entirely from their estate of ten thousand acres of timbered lands in Accomac County, Va., employing their own vessels, and a force of about two hundred men in cutting, transporting, and distributing the wood to their customers. The other firms get their supplies from wood dealers. Two hundred thousand cords of wood are annually brought to the New York market, of which fifty thousand cords are used by kindling wood companies. In the transportation of this material about a hundred schooners are employed. The number has fallen off somewhat lately through a contraction of the business. Of the immense supply of pine wood, New Jersey furnishes one-eighth, and Virginia the remainder. The supplies from the latter State are drawn principally from the timber lands along the James, York and Rappahannock rivers, and from Accomac County, on the peninsula which lies between the Chesapeake Bay and the Atlantic. Mr. James Allen, who is one of the largest real estate owners on the James River, has a railroad fifteen miles long on his own land, for the transportation of timber. From his docks the kindling wood dealers obtain a large part of their Virginia pine. The supply of kindling material is rapidly falling off at the accustomed sources, and new tracts will soon have to be opened, probably on the rivers of North and South Carolina and Georgia. New Jersey furnishes a far less amount each succeeding year, and the supply from Virginia is not in keeping with the demand; although the Virginia pine has a very rapid growth, shooting up from the brush to a size large enough for firewood in ten years.

The pine for kindling is brought to the establishments in this city in the form of cord wood, being afterward divided into proper lengths by circular saws, and split by a cross-formed ax, acting by machinery. It is then bundled by hand, boys being generally employed in this work, usually at wages that yield them a fair compensation for their labor. Finally, the great life of our city is put in motion every morning by these little bundles of pine wood that the kindling-man brings to our doors; and New York without her wood would be in almost as bad a condition as New York without her water.

In this city, a very common way of selling the pitch pine kindlings is by the barrel, the retail price of which quantity is about 62 cents.

AIR IN A CROWDED ROOM.—The condensed air of a crowded room gives a deposit, which, if allowed to remain a few days, forms a solid, thick, glutinous mass, having a strong odor of animal matter. If examined by a microscope, it is seen to undergo a remarkable change. First of all, it is converted into a vegetable growth, and this is followed by the production of multitudes of animalculæ; a decisive proof that it must contain organic matter, otherwise it could not nourish organic beings.—*Scientific American.*

WORCESTER NORTH TRANSACTIONS.—Address by Dr. GEORGE B. LORING, upon the *actual business of farming*—crops, cattle, manures, drainage, soils, &c., and a good one it is. Among the reports there is one on *fruits* and *flowers*, and one on *gardens*.

THANKS.—Thanks to our young lady correspondent, "L. H. J.," from the Granite State. Do not be discouraged if you do not see all your articles in print. Good writing comes by practice, as well as good dancing, or any thing else.

A NEW AUDIENCE.

Lunatic Asylum, Worcester, Jan., 1861.

GENTLEMEN:—I came here last evening, at the request of Dr. M. BEMIS, Superintendent of this Institution, to speak, as he requested, "upon some of the more pleasing topics of agriculture," to the inmates of the establishment. In company with the doctor, in the early part of the evening, I went through most of the Wards, and saw the inmates in all their different degrees of hallucination; and out of some *three hundred and seventy*, there were only half-a-dozen who showed a decided aberration of mind. These, like some of us who think we are sane, were a little inclined to that infirmity called *cacoethes loquendi*, or rage for speaking, and were very gracefully gesticulating and addressing imaginary audiences, and evidently with great satisfaction to themselves. They were all clad in plain, neat clothing, while the long halls up and down which they were leisurely walking, were scrupulously neat, so that the floor and walls actually glistened in the gas light. The bed-rooms were equally sweet and clean. Each of these halls has a recess large enough to afford room for one or two windows, a sofa on each side, a piano near the front, and a table covered with books and papers in the centre. In each Ward I found patients exercising by walking, while others were reclining upon a lounge, or here and there a group of three or four engaged in social chat, or occupied with some interesting game. At the end of one hall, a young man was discoursing "Fisher's Hornpipe" on a violin, and did no discredit to the Art. In the women's wards, groups were sewing, knitting, conversing, or indulging some one of the number who had a fancy to be dressed in all the finery the department could afford. Indeed, there were no signs of discontent, and few of restraint.—Most of the patients appeared cheerful and healthy, and every where met the doctor with a pleasant smile, which seemed to say,—"You are our tried and considerate friend." There was a wonderful influence every where, unseen, but not unfelt. All things were done in a firm, but moderate and quiet manner, and I soon found that I was surrounded by a *system* that pervaded every thing, but never chafed, unless violated. Instinctively the voice of the visitor falls to that of his attendant, and he soon yields to the quiet influences of the place.

When there, a few years ago, I saw cells with grated windows and iron doors, and within their walls denuded and desperate men in terrible delirium.

"Where are those cells now, doctor?" I inquired.

"They occupied the place of the billiard room which we have just left," was the reply.

"Probably replaced in some more retired part of the buildings," I suggested.

"No," said the doctor, "never replaced—there is no need of them."

"But what do you do with those persons brought here in a paroxysm of frenzy?"

"My Supervisor takes the key to the patient's irons, dismisses the officers who brought him, and removes his bonds; moves quietly about him; speaks in low, gentle and loving terms; walks with him, looks from the windows, sits down, and wins him over to himself in spite of his malady! There is rarely a case so obstinate, that our system does not overcome it in twenty-four hours, so that violence and danger are not anticipated."

Wonderful power! There is nothing in nature, thought I, so noble and so mighty as a loving heart. When I last looked into one of those cells, a man sprang at the door, and with the strength of a giant and the ferocity of a tiger, shook the iron frame-work until it seemed about to yield to his power, and with awful imprecations smote the stone walls or empty air with his already excoriated fists. Another was prone upon the floor, having divested himself of every particle of clothing in a recent paroxysm. The cold was intense, yet neither seemed to heed it. I was nearly horror-stricken when I learned last evening that the person who was so ferocious was from my native town, and for many years my acquaintance, an excellent gentleman and scholar. How wise is the Providence that hides the dark future which lies before many of us! Who would withdraw the veil and look into that future, if he could?

No one thing more distinctly marks the progress of the age than the treatment of this unfortunate class of our population. These improvements have been wrought out by men of learning and benevolence; not by one person, in a day or a year, but by an aggregation of study and observation, mingled with large experience in many institutions like this. And what a noble monument to the State of Massachusetts does such a spectacle as this present, contrasted with a custom which some of us can remember, of chaining such persons in the kitchen, or enclosing them in a cage like a wild beast!

But my *new audience* is ready—let us join it. On entering, I found some three hundred persons seated in a chapel whose ceiling was the roof, and the cross-timbers and other parts were hung with festoons and wreaths of evergreens. The inside finish, I think, was chestnut, varnished, and combined with the just and beautiful architectural style, gave the whole the appearance of fairy land. My audience was as respectful and attentive as those of our best towns, and during the hour and a quarter in which I addressed them, were *wide*

awake, and apparently interested in the topics presented. I had no written lecture, but spoke to them,

1. Upon some of the modes by which men seek happiness.

2. The advantages and healthful influences of out-door avocations, briefly contrasting mechanical and agricultural employments. And,

3. The soothing and delightful impressions realized in the care and cultivation of a garden: the contemplation of growing flowers and plants: the observation of animated life which usually surrounds them, and the contrast between young persons brought up in attractive rural homes, surrounded by trees, shrubbery, flowers, and pleasant landscapes, and those deprived of these sweet influences. I endeavored to show the effect of these upon the *Manners*, *Taste* and *Memory*, helping out my own deficiencies here and there by a quotation from Milton, Pope, Burns, or any one else whom I could summon, who had loved a garden.

In an easy chair, and before a bright wood fire in the family parlor, after the lecture, I discovered why the Doctor's thoughts should turn to myself to speak to his patients—he is not only a disciple of Ceres and Pomona, but has a critic's eye for the good points of a cow, or an ox, and kindles with emotion when speaking of the horse. So I had found a kindred spirit, and the evening waned into night before "half the tale was o'er."

This morning, I have taken a brief run through the barns, and have satisfied myself that the administration of the affairs of the farm is as judicious as is that of the family. Twenty finer cows, nearly all pure Short-horns, I have never seen together in Massachusetts. The oxen, horses and swine all bore evidence of skill in selection, or rearing. The farm contains about one hundred and ten acres, and its products harvested last year amounted to *six thousand dollars*, at fair market prices!

My visit has been one of great interest, and increases my desire to see the stock, farm and buildings more minutely during a growing season.

Very truly yours, SIMON BROWN.

MESSRS. NOURSE, EATON & TOLMAN.

CATTLE RUNNING AT LARGE.—The President of the Ohio State Board of Agriculture, in reply to the argument that the "road is the poor man's pasture," says:

My attention and that of others has been directed to ascertaining the actual ownership of the cattle found running in the highways, and the result has been the conviction that less than five per cent. of the cattle found at large are owned by poor and landless persons. In almost every instance, in the rural districts over which my acquaintance extends, the cattle found on the road are the property of neighboring landholders, and in country villages, merchants, lawyers, doctors, tavern-keepers, master-mechanics, and other persons in comfortable circumstances, are pasturing the roads, and commons; while the really needy families, for whom our sympathies ought to be enlisted, are buying milk by the pint.

For the New England Farmer.

WHICH TO PLANT, LARGE OR SMALL CORN?

MR. EDITOR:—As the season will soon be at hand when farmers will begin to look up their seeds, and looking upon the corn crop as being one of the main crops for the farmer, I thought I would give you an experiment tried by me some time since. In October, 1858, I harvested a fine field of corn, consisting of 8, 10 and 12 rowed, mixed indiscriminately. All of the long eared variety measured from 10 to 12 inches, each. I put it into one large bin, where it remained until May, 1859; it was then dry and good. I then threw into piles a lot of each kind, 8, 10 and 12 rowed, and, without any selection, I took 10 ears from each pile, and weighed the same, with the following result:

10 ears, 8 rowed,	3	lbs.,	10	oz.,	cobs,	10	oz.					
10 " 10 "	4	"	1	"	"	13	"	Gain of corn	4	oz.		
10 " 12 "	4	"	7	"	"	13	"	"	"	"	10	"

The 8 rowed was the largest and best looking kernels. Now, supposing there are 5 good ears, on a hill, and 4840 hills, 3 feet apart, on an acre, at 50 lb. shelled corn to the bushel, there is a gain of 12 and 5-50th bushels on the 10 rowed, and 30 and 12½-50th bushels on the 12 rowed, over the 8 rowed variety.

As a general thing, we have a good corn season, but I find that many of the farmers, for fear they will not get good corn, plant a short eared 8 rowed Canada variety. I plant the longest and largest I can get, and for 10 years have never failed of getting a crop, and I believe others can do the same, provided they are up and doing, as they should be. I am of the opinion that those who do plant this short eared variety do not get two-thirds the corn I do, when I use the larger variety.

I throw out these suggestions, and trust others will make a trial the coming season, and if it is a fact that we can get 30 bushels more corn to the acre by using the 12 instead of the 8 rowed variety, although perhaps a little longer in maturing, yet it will pay. MASSAPOAG.

North Brookfield, Jan. 8, 1861.

MACADAMIZED ROADS, better than any to be found in Europe, says the *Moniteur de l'Armee*, are universal in China, and are stated to have existed in that country for centuries. The Chinese roads are so constructed that water runs off them immediately, so that they are perfectly dry half an hour after the heaviest rain. Macadam, who has had the credit of inventing the system of road-making introduced by him into England, is declared by the *Moniteur de l' Armee* to have obtained the idea from a friend of his who had passed several years in China.

For the New England Farmer.

THE BIRDS OF NEW ENGLAND---No. 10.

FLYCATCHERS.

King Bird, or Tyrant Flycatcher—Crested Flycatcher—Olive-sided Flycatcher—Phœbe, or Pewee Flycatcher—Wood Pewee—Small Pewee.

Passing over several of the sub-families of *Laniadæ* unrepresented in our fauna, we arrive at the last and aberrant form of the group, the *Tyranninæ*, or Tyrant Flycatchers, embracing our New England Flycatchers; indeed, this section being much allied to *Muscicapidæ*, or the *true* Flycatchers of the Eastern continent. We possess six species of *Tyranninæ*, all of which are migratory, spending the winter in warmer latitudes far to the south, a few even in tropical America, coming to us in spring to pass the summer, and rear their young in our borders. They may be considered strictly insectivorous, rarely partaking of other food than living insects, and are consequently highly beneficial to the interests of the agriculturists, and are eminently worthy of protection. They are rather tyrannical in their dispositions towards other birds, and are generally quite destitute of song, yet their peculiar notes are often in perfect harmony with their surroundings, and give additional interest to our solitary woods, fields and orchards.

The KING BIRD, or TYRANT FLYCATCHER, (*Tyrannus intrepidus*, Vieill.; *Muscicapa tyrannus* of Wilson; *Lanius tyrannus* of Linnæus,) is a common and well known species in New England, and throughout the greater part of the United States, in the Southern States bearing the name of *Field Martin*. They come to us in May, from the remote tropical regions of the continent, and are said to proceed as far northward as the interior of Canada. The illustrious Wilson thus finely describes the arrival of this bird in spring, in his poetical epitome of the King Bird's history:

"Far in the south where vast Maragnon flows,
And boundless forests unknown wilds enclose;
Vine-tangled shores, and suffocating woods,
Parched up with heat or drowned with pouring floods;
Where each extreme alternately prevails,
And Nature sad their ravages bewails;
Lo! high in air, above those trackless wastes
With spring's return the King Bird hither hastes;
Coasts the famed Gulf*, and, from his height, explores
Its thousand streams, its long indented shores,
Its plains immense, wide opening on the day,
Its lakes and isles, where feathered millions play.
All tempt not him; till, gazing from on high,
COLUMBIA'S regions wide before him lie;
There end his wanderings and his wish to roam,
Here lie his native woods, his fields, his *home*;
Down, circling, he descends, from azure heights,
And on a full-blown sassafras alights.
Fatigued and silent, for a while he views
His old frequented haunts, and shades recluse;
Sees brothers, comrades, every hour arrive—
Hears, humming round, the tenants of the hive:
Love fires his breast; he woos, and soon is blest;
And in the blooming orchard builds his nest."

* Of Mexico.

Audubon remarks the arrival of the King Bird in Louisiana about the middle of March; Wilson speaks of his arrival in Pennsylvania about the 20th of April; while in New England he is seldom seen before the middle of May, generally appearing at the time the orchards are opening their fragrant blossoms. For a few days he appears fatigued, silent and melancholy, but soon his harsh, tremulous notes are heard, as he pursues on quickening wing the passing insects, or hovers over his natal haunts. In a few days he selects his mate, and the happy pair at once commence constructing a nest in an apple tree of the orchard, or in some isolated tree of the field or pasture, rarely in hedges or along the borders of woods. The peculiar habits and remarkable traits of character exhibited by this noble bird are well known to all dwellers in the country; and the observing farmer well knows that he can secure no better protection against the Crows for his young corn, than to have a pair of these birds take up their residence in the vicinity of his cornfield. Full of affection for his mate and young, as soon as the period of incubation commences, he gallantly drives off every feathered intruder, evincing the greatest bravery in his attacks upon the Eagle, and all the large birds of prey; the Crow seeks to shun his attack, and the plundering Blue Jay he drives disgraced and screaming from the orchard. By this bird, the poultry are in no small measure protected from the attacks of Hawks; but the chief benefits derived from this bird, are from its ceaseless havoc among the destroying insect tribes, which constitute its almost sole diet till towards autumn, when it is varied occasionally with a few wild fruits. But the noble King Bird is sometimes guilty of snatching up a hapless bee, with which to vary his fare, and barbarous, inconsiderate humanity at once dooms him to be shot! his good deeds are nothing. Every American naturalist worthy the name has eloquently plead in his behalf, yet for his trivial trespass many avaricious bee-keepers, overlooking the general good, persist in his destruction.

The King Bird often rears two broods of young in a season, but generally retires southward early in September. His habits are so well known, and his residence so general in New England that further remarks are perhaps unnecessary.

The King Bird is eight inches in length, and fourteen inches in alar extent. Color above, dusky ash, the head and tail quite black, and the latter tipped with white; beneath white, approaching ash on the breast. On the crown of the head is a spot of deep scarlet, which is seldom observed, unless the exterior, dusky feathers are parted with the hand.

The GREAT-CRESTED FLYCATCHER, (*Tyrannus crinitus*, Swain.,) is so rare a bird in New England that but few, if any, other than the practical ornithologists, are aware of its existence. Nuttall described it as extremely rare in all parts of New England, but speaks of once meeting with a pair of these birds in Acton, in this State, in the month of July, that had reared a brood of young in that vicinity. A single individual of this species was observed by the writer, in September of the present year, in this vicinity. Farther south it is more commonly observed. Its habits are described as similar to those of the bird above described, though rather more confined to the woods, yet making frequent excursions to the orchard, and it is exceedingly dexterous at its profession, seizing insects on the wing. It builds its nest in the deserted hole of a Blue Bird or Woodpecker, according to Wilson, of loose hay, feathers, hair, and the cast skins of snakes; the eggs are four in number, dull cream-colored, thickly pencilled with purple lines.

This species is eight and one-half inches in length, and thirteen in alar extent. Upper parts,

dull greenish-olive, the feathers of the head pointed, and centred with black, erectable, forming a loose, spreading crest; throat and breast, fine ash, abdomen, yellow; wings and tail, ferruginous.

The OLIVE-SIDED FLYCATCHER, (*Tyrannus borealis*, Swain.; *Muscicapa Cooperi*, Nutt.,) is likewise exceedingly rare in New England.

It seems to have been first described by Dr. Richardson and Mr. Swainson, in their *Northern Zoology*, from a specimen obtained far to the north, on the banks of the Saskatchewan river. Nuttall subsequently met with several individuals of this species, in this State, and supposing it undescribed, dedicated it to his friend, William Cooper, Esq., and has added something to our knowledge of its habits. He speaks of them as quarrelsome and tyrannical, even among themselves, apparently disputing about the rights of their respective hunting-grounds.

The length of this species is six and a half to seven inches. Upper parts dusky brown, darkest on the head, which has an erectile, blowsy crest; sides, olive-gray; centre of abdomen, yellowish-white.

The PHŒBE, or PEWIT FLYCATCHER, (*Tyrannula fusca*, Jard.,) is one of our earliest and most welcome spring visitants, and from its familiar habits and valuable services, is well entitled to our protection and regard; yet a few, far more avaricious than humane, persist in shooting it for its habit of occasionally varying its insect fare with a few bees. He often builds in the immediate vicinity of the farm-house, in an old barn or open shed, sometimes taking possession of the deserted Swallow's nests; and his agreeable, plaintive call of *phœbe*, or *pèe-we, pewittitee pèe-we*, heard throughout the long mornings of early spring, from his perch in the garden, or immediate vicinity of the farm-yard, are familiar to all, and ever listened to with pleasure. He also sometimes selects some sheltered, projecting part of a bridge, the walls of a well, or a cave, for the site of his nest, which is large and firm, composed of mud and moss, and nicely lined with horse hair, and soft substances. The eggs are five, and nearly pure white. Wilson speaks of a forest cave, romantically situated beside a small stream, over which, and

> "Through every chink the woodbines creep
> And smooth-barked beeches spread their arms around,"

in the solitude and repose of which a pair of Phœbes quietly reared their young for several successive years, until a party of boys, waging indiscriminate slaughter upon the feathered tribes, "within my hearing," says Wilson, "destroyed both parents of this old and peaceful settlement;" and no Pewees, he observes, were seen at that place for several years after.

The Pewees, or Phœbes, remain with us until October, when the rigors of the season, and the scarcity of their insect food, compel them to seek a more southern latitude, for a more congenial climate.

This species is six and a half inches in length; extent of wings, nine and a half, upper plumage, dark, dusky olive, darker on the head, wings and tail; beneath, pale yellowish.

This species, and the two following, have been separated from the larger Tyrants, chiefly from their smaller size, forming the sub-genus *Tyrannula* of Swainson. This, and several of the smaller *Tyrannulæ*, Jardine observes, are much allied to the spotted Flycatcher of Britain, (*Muscicapa luctuosa*, Tenn.,) differing in no point but slightly.

The WOOD PEWEE, (*Tyrannula virens*, Jard.,) is a common sylvan species, occasionally seen in the orchard, but generally wholly confined to the woods, and more commonly observed in high-timbered, solitary woodlands, where there is but little undergrowth. Perched on the slender, dry twigs of the lower branches, it incessantly watches for passing insects, darting upon them with unerring aim, in the intervals calling out *pee-way, pee-a-wee, peto way*, in a feeble, melancholy tone, well harmonizing with the solemnity of the shady woods, outside of which it is so seldom seen, though in August it sometimes approaches the thick-set orchards. It is wholly inoffensive, subsisting like its congeners on winged insects. It constructs a neat, and very curious nest, so interwoven with moss on its exterior surface as hardly to be distinguishable from the decayed, moss-covered branch upon which it rests, and is delicately lined with fine root fibres, and other soft materials. The eggs are three or four, yellowish-white, sparingly blotched with lilac and dark brown. The Wood Pewee winters far to the south, seldom arriving in New England before the middle of May, and retiring early in September.

The Wood Pewee measures six inches in length, and ten in alar extent. Above, pale brownish-olive, beneath, pale yellowish; head, sub-crested, brownish-black.

The SMALL PEWEE, (*Tyrannula Acadica*, Swain.,) is a common, and well known species, inhabiting alike the orchard and the forest. It comes to us from the far south, about the tenth or fifteenth of May, with the throng of summer birds that then arrive; and their sharp, rather unpleasant call of *queah, tsheah*, is at once recognized, so frequently uttered while watching for insects in the vicinity of the garden or orchard, or while engaged in petty combats with one another, which are common at this period. Farther south it seems to be quite rare, from Wilson's account of it, and chiefly confined to moist woods and solitary forests, but it is common, even quite numerous in this latitude, and extends its migrations far to the northward, and is, perhaps, more frequently seen in the orchard than elsewhere. It constructs a neat and curious nest, generally in the forked branch of an apple tree, compactly woven of the strong fibres of dead grass, thread, if it can possibly obtain it, and horse hair, nicely lined with soft, downy substances. The eggs are white, and four or five in number. This is one of the smallest of our Flycatchers, but gallantly defends its nest from all intruders, equaling its larger congeners in intrepidity, and in the skill it displays in seizing its favorite food.

The Little Pewee is five and a half inches in length, and nine in alar extent; upper parts, green olive color; beneath, greenish-yellow, darkest on the breast; wings dull brown, with two bars of dull white. J. A. A.

Springfield, Mass., Dec. 30, 1860.

HOW TO RIGHT A LEANING CHIMNEY.—A correspondent who had built the foundation of his

chimney with the wall of his cellar, and continued it 20 feet high, found that after a few months it began to settle on one side, causing the chimney to lean out from the house at the top, (it being an outside chimney,) until it was eight or nine inches out of line. He righted it by taking out the grate and sawing through the jams (mortar joints,) on three sides (including the most elevated) at three different places between the arch and the hearth, which process straightened the chimney without rebuilding. Those having large leaning chimneys should make a note of this.

For the New England Farmer.

CULTURE AND VALUE OF KOHL-RABI.

The 20th volume of the *Journal of the Royal Agricultural Society* of England contains a paper on the Kohl-Rabi, by PETER LAWSON & SON, Edinburgh, a general summary of which brings under one view the special features of the Kohl-Rabi. and the various points to be noticed in the cultivation, general management, properties and uses of the plant.

1. There are eleven varieties in cultivation, four of which are supposed to be modifications of the others.

2. All soils are suited to its cultivation, but it prefers heavy lands, even those approaching to stiff clays, and it can be grown where turnips cannot.

3. Soil should be in fine tilth, well worked, and farm-yard manure plowed in, in the autumn. In the spring it should be grubbed and thoroughly pulverized.

4. It requires heavy manuring; phosphatic manures, with common salt added, are most suitable for it. Peruvian guano and other nitrogenous manures should be avoided.

5. Seed should be sown in beds at the end of February or early in March, in drills, 12 inches apart. A bed 6 yards square will afford sufficient plants for one acre of land, and 8 ounces of seed will be necessary for the seed-bed.

6. For successional crops, three sowings may be made; the first early in March; the second, during the second week of April; and the third, the first of June.

7. Transplanting to the drills should be commenced the first week of May; but, as a general rule, the plants should not be removed until they are from 6 to 8 inches high.

8. Plants for the main crop should be dibbled in at 18 inches distance. If successional crops are transplanted, the first (in May) should be 18 inches; the second (in June) 16 inches; and the third (end of July, or the first week in August) 14 inches apart.

9. If sowed at once in the field in the drills, the operation should be performed about the middle of April, but not later than the end. Of seed, 4 lbs. are necessary for an acre.

10. Drills should be 27 inches in width, and plants should be singled to 18 inches.

11. While growing, the horse-hoe must be kept in continual requisition, until the spreading of the leaves prevents the operation being performed.

12. The average weight per acre is in England from 26 to 30 tons; in Scotland, from 20 to 25 tons; and in Ireland from 30 to 35 tons.

13. Every description of stock will eat the Kohl-rabi with avidity. In consuming the crop, sheep may be folded on the ground; but, if given in the yards to cattle, the bulbs should be sliced or pulped. For pigs they should be steamed or boiled.

14. For cattle and horses it affords true nourishment when boiled with grain.

15. For milch cows it is invaluable, giving to milk or butter none of that disagreable flavor which results when they are fed on turnips.

16. For ewes and lambs it is as fine food as they can have in March and April; and when ewes are lambing, it is found greatly to increase the supply of milk.

17. Kohl-Rabi is, so far as present known; subject to no disease except "clubbing and anbury."

18. If hares and rabbits exist in the neighborhood of the crop, they are sure to prove very destructive, unless means of precaution are taken.

19. The leaves are of equal value with the bulbs in nutritive properties.

20. The plant for feeding purposes is twice as valuable as ordinary turnips.

21. It bears transplanting better than any other crop, and is invaluable, therefore, for filling up blanks in turnips, or potatoes.

22. The Kohl-rabi can withstand any amount of drought, if the transplanting has been successful.

23. The most intense frost does not affect it; it stands the winter well, and affords good feed even to the end of spring.

24. Its advantages over the swedes are, that cattle, and especially horses, are fonder of it; the leaves are better food; it bears transplanting better than any other root; insects do not injure it; drought does not prevent its growth; it stores quite as well or better; it stands the winter better; and it affords food later in the season. even in June. JOSEPH COE.

Rochester, Jan., 1861.

A BAD BEGINNING.—A farmer who wintered eighty sheep last winter with the loss of only two, which he says were old enough to die any how; who raised without trouble 44 lambs from 47 ewes, and whose fleeces averaged over three and a half pounds, gives in the Ohio *Cultivator* the following lively description of his experience in keeping sheep the previous season, without the comfortable shelter which his flock now enjoys.

In the fall of 1858, I started into the winter with about 80 fine sheep without any shelter. But O! how I came out! Against spring opened up, I had 66. But that was not all. I had gone to the expense and trouble of getting two very nice bucks; and from about 50 ewes I raised about half as many lambs, by raising four or five by hand. Was this all? No! When I sheared them, I put what wool I had got off my dead sheep in among my other wool, and then my 66 fleeces did not average three pounds.

HOPS.—From one thousand hills of hops planted last February, in California, one thousand pounds of hops were gathered this fall.

BUCKTHORN FOR HEDGES.

The inquiry is occasionally made, "What is the best plant for hedges, taking into account hardiness, rapidity of growth and beauty?" Several plants, such as hemlock, arbor vitæ, three thorned acacia, osage orange, native crab apple, and others are employed.

If the hedge is designed to fence against cattle, some of the hedges with sharp stiff thorns are best, but if to be used as boundaries or objects of beauty, we know of nothing that will "set off" the premises and answer the purpose desired so readily as buckthorn. The cut, which we give above, shows how the plant will spread, and form a low tree when standing alone. When properly

cultivated and pruned, it serves an excellent purpose as a shelter for the garden, breaking the high winds, somewhat modifying the fierce solar heat in summer, and at the same time tending to keep the grounds moist in dry seasons.

"The Buckthorn is indigenous to our country, is a bushy plant, growing from ten to fifteen feet high, not very thorny, but having sharp, stiff spurs, or side branches, and is considerably used as a hedge plant in this State. It bears clipping remarkably well, does not suffer from extreme cold, puts on its greenness early in the spring, and is possessed of great vitality, so that it seldom suffers from transplanting." A quite full account of the different plants used for hedges may be found in WARDERS' *Hedges and Evergreens*, published in 1858.

GARGET.—A correspondent of the *Rural New-Yorker*, who "was brought up from childhood on a farm, has kept a dairy for a living, and is getting somewhat along in years," thinks that Nature is a sufficient physician for this disease, which he says is caused by accident. When he discovers that the milk is bloody he draws it carefully, but does not save it from the section of the udder affected until the milk again presents a healthy appearance, which generally has been but a few milkings.

For the New England Farmer.

RETROSPECTIVE NOTES.

THOUGHTS SUGGESTED BY N. E. FARMER, JAN., 1861.

Feeding Hogs—A Common Mismanagement, and a better Way.—In the brief article on this subject on page 10 of *N. E. Farmer*, (Monthly,) and in the weekly of Dec. 15, there is an opinion advanced which we think to some extent erroneous, and likely, also, to mislead or perplex those who cannot separate the truth it contains from the error with which it is mixed up. The statement is this,—that the usual process of feeding pumpkins, potatoes and other bulky substances to hogs for several weeks before feeding them on corn is injurious, because this bulky kind of food tends to enlarge the stomach and digestive organs, and thus the hogs are led by the mere force of habit to eat a larger amount of the more nutritious food than the system requires, more than can be digested, and more than they would otherwise do. Now there is here a mixture of truth and error, and it is of much practical importance to discriminate between them. Those who fail to separate the former from the latter will be either perplexed or misled by the foregoing statement; while those who make the proper discrimination may have an important fact or truth more deeply fixed in their minds, and more likely to be remembered and ready for application in their hog-feeding processes.

This much, then, is true about the foregoing statement, viz., that bulky, or I should rather term it highly diluted, food is quite apt to produce the morbid enlargement of the stomach and digestive organs which is therein alleged. But it is not absolutely necessary and unavoidable that boiled pumpkins and potatoes must be so bulky as to be liable to this objection. It is the addition of too much water or slop or thin milk which makes even this kind of food injurious. In order to get enough of real nutriment to satisfy the craving of hunger, hogs fed on highly-diluted food—whether the food so over-diluted be boiled pumpkins and potatoes, or boiled meal, or raw meal, or bran, or anything else—are obliged to swallow a much larger *quantity* than they would need to do, or would do, if the *quality* were richer, more nutritious, or less diluted. This over-thinning of swill or food for hogs is not confined to the single case of potatoes and pumpkins, but may be met with, by the help of an observing pair of eyes, in the swill and the swill-barrels of a great many who do not understand very well the business of hog-fatting and pork-making, simple and easy as that business may seem.

But, notwithstanding that we believe there are a good many who do not understand this apparently simple and easy task, and notwithstand-

ing that there are a great many blunders committed in the feeding and management of hogs, we are pretty sure that the writer of the article under notice is laboring under a mistake if he supposes, as he seems to do by his use of the phrase "usual process," that the majority or generality of farmers feed boiled potatoes and pumpkins alone, without any admixture of meal, bran or some other more nutritious ingredient, even at this season of the year, when potatoes and pumpkins do most abound. We should say, from our own observations, that these articles are not very frequently—far from "usually"—fed alone, and that an addition of bran or meal was the more usual process. But even if these watery vegetables were fed alone, without any addition of meal or other less watery and more nutritious elements, there would not be much danger of enlarged stomachs and pot-bellies, if the water in which they were boiled were pretty thoroughly drained off and the potatoes and pumpkins served to the hogs nearly dry or undiluted.

Our readers will have discovered by this time what we consider the error of the article under notice. It is attributing to a certain convenient and common kind of food—specially convenient at potato and pumpkin harvest—injurious effects, which are produced much more commonly from mere bulkiness or over-dilution of all kinds of food, than from any special quality of any particular kind.

The over-dilution of hog-feed, to which we have been endeavoring to direct the attention and the thoughts of our readers, is, we are persuaded, a frequent and a pernicious mode of mismanagement. The evil consequences already referred to in the commencement of these remarks are not the only ones which flow from this not uncommon blunder. There can be no doubt, with those at least who have been witnesses of the thin slops which some of their neighbors, perhaps, carry out to their hogs, that one reason why some hogs do not thrive, is, that they get too little nutriment, that whole pailsful of thin slop have to be swallowed in order to get as much nourishment as might be put into a quart or pint bowl. The consequence, in a few cases which have come under our observation, is, that these feeders of slops never have any "luck" with their hogs until they husk their corn and feed their hogs almost exclusively on that, and even then it takes them longer than some of their neighbors, who feed less liquids and more solids in the earlier part of the season, to get their hogs decently fat by Christmas or New Year's day.

The very decided success with which Mr. L. LONG, of Holyoke, practices feeding meal in the dry state to his hogs, and giving them their slops or other drink separately, may be taken into consideration along with our remarks. Mr. Long's report may be found in last year's volume of this paper, on page 462 of the monthly edition. Those, we are confident, who duly consider Mr. Long's report and these remarks, and who frame their hog-feeding accordingly, will feed less liquids and more solids, and these, perhaps, separately, and will be very unlikely to have their hogs either pot-bellied or poor.

Portable Grist Mill.—In the *Farmer* of Dec. 15, S. W. SOUTHWORTH, of Middletown, Ct., writes that he wants to get some *reliable* information in regard to some portable grist mill which he had seen advertised in the columns of this paper. He states that he has from three to five hundred bushels of grain to grind every year, and as he has to haul it two miles to get it ground, and frequently has to go the second time after it, which is no small job when the roads are muddy, he, naturally enough, would like to do his own grinding, but, like a sensible man, would like to know how fast these advertised mills can grind, how durable they are, what they cost, &c., before purchasing one.

As no information has as yet been given in reply to Mr. S.'s inquiries, and as there are, doubtless, several others of your readers to whom information as to the points named would be of considerable value, I will here, for the benefit and satisfaction of Mr. S. and others similarly situated, give an outline of a communication by S. EDWARDS TODD, in a recent issue of the *Country Gentleman*.

Mr. TODD states that as he lives five miles from a good grist mill, he has been trying for eighteen years to get a good farm mill with which he would be able to grind coarse grain for feed. He says he has expended a great deal of time and money in getting such mills, and in experimenting with them, and that he has thrown them all aside as non-paying, profitless machinery, preferring to haul his grain five miles to have it well ground rather than to attempt to grind it in such worthless pepper-mills, as he calls them.

The details of Mr. Todd's experiments with several of the advertised and highly-puffed grist-mills are very interesting. Those who wish to acquaint themselves therewith, will find them in full in the *Country Gentleman* of Nov. 15, 1860. They may save some of your readers from much waste of time and money. MORE ANON.

ESSEX COUNTY TRANSACTIONS.—The transactions for 1860 are before us. The first paper they contain is the address of JOHN L. RUSSELL. Then follows a report on *Flowers*, by C. M. TRACY, occupying fourteen pages—both are excellent papers. Reports upon Fruits, Vegetables, Stock, Farms, &c., follow, and are more valuable than are usually found in similar Transactions. The officers of the Society for the year 1861 are,—*President*, ALLEN W. DODGE, Hamilton; *Vice Presidents*, LEWIS ALLEN, South Danvers; JEREMIAH COLBURN, Newburyport; DAVID CHOATE, Essex; JEREMIAH SPOFFORD, Groveland; *Treasurer*, WILLIAM SUTTON, South Danvers; *Secretary*, CHARLES R. PRESTON.

REMEDY FOR GARGET IN COWS.—I had, a few days since, a new milch cow whose bag was very badly caked—so much so that the usual remedies of cold water, soap-suds, spirits camphor, &c., had no effect upon it. I asked our family physician for a prescription, who gave me this:

1 part aqua ammonia,
2 parts sweet oil,

well rubbed in, twice daily. In two days a cure was effected.—W. J. PETTEE, Salisbury, Ct.

STATE REFORM SCHOOL.

This Institution and its interests have been brought to the public mind in an unusual degree, during the last year. This has been occasioned by two causes. First, the fire which destroyed a considerable portion of the buildings, and secondly, the bitter and uncompromising hostility of Gov. Banks, from the moment of his induction into office. That hostility was determined, and unyielding, and became so apparent to all, except the council whom he controlled, that it was the common expression of the public voice. He knew little or nothing of the affairs of the institution, because he never went there after his election, until the fire occurred. It was determined to "crush out" the Institution, and because *the Trustees carried out the designs* of its noble founder with singular fidelity, and *strictly regarded the laws of the State* in its management, they were removed from office; and now, as if to complete the wretched work which originated in weakness and imbecility, as well as hostility, one of the best men that ever lived has been removed from his place as Superintendent, because he, too, obeyed the laws of the State, through the direction of the Trustees. The whole assault upon the officers of the institution was as wicked as it was unprovoked. It is due to the credit of the State, and to the officers removed, that a thorough and searching investigation be instituted by the present legislature.

Below we give a brief account of the closing scene of the drama, which shows clearly *who* stands highest in the hearts of boys and the few remaining officers,—the late Governor and Council, or their old, long-tried and faithful teachers and friends.

The retiring Superintendent of the State Reform School at Westboro', as we learn from the Marlboro' *Journal*, was made the recipient, the other day, of an elegant family Bible, presented by the 280 boys confined there, and the officers presented him with an easy chair, and to Mrs. Starr was given a set of silver spoons. In addition to these testimonials of esteem and affection were added four large photographs of antique basreliefs in handsome gilt frames, the offering of the Sabbath school teachers. The presentations were a total surprise to Mr. and Mrs. Starr, but the former made a few remarks, saying that he had been taken quite by surprise, and no words of his could express the emotion which he then felt. Four years ago he had torn himself away from a connection too pleasant to last, to come here. He could confidently appeal to his conscience, and to all who knew him, to say if he had not labored with all the powers his Maker had vouchsafed to him, for the welfare of the inmates of that institution. Notwithstanding the assaults that had been made upon his character, he felt assured that he should come out of it unscathed. The 1150 boys who were, and had been, inmates of the Institution since he came there, were his friends; and he felt his reputation was safer in their hands than with Governors and Councils, because the former were not ambitious of political promotion. To the boys he said: The associations between us have been pleasant; but we part now; no more shall we meet together here, but I shall remember you as long as life lasts. He bore willing testimony to the faithfulness of the officers and teachers of the Institution, and acknowledged many acts of kindness on their part.

Mr. and Mrs. Starr leave Westboro' with the respect and esteem of all who have enjoyed their acquaintance, and the loss will be none the less to the Institution over which he has so long presided, and which has had his best efforts for the past four years; and his friends in this city, who have so long known him, will not be prepared to believe all the charges contained in the report made by a committee of the Council, but rather refer to his whole life for their refutation.

EXTRACTS AND REPLIES.

HEAVES IN HORSES.

I would inquire what is the best mode of managing and feeding a horse slightly affected with the heaves, so that they shall injure him the least?

Also, how many bushels of oats, corn, rye, barley, wheat, potatoes, carrots, ruta bagas, white flat, turnips and beets are equal to one ton of hay for cattle and horses?

What is a fair crop of each to an acre of land?

Y. B. PEPPERWELL.

East Washington, N. H., Jan. 8, 1861.

REMARKS.—Feed the horse affected with the heaves on cut fodder moistened with water—give him no *dry* fodder of any kind, and feed at regular times. Drive him moderately, and protect him from sudden changes of temperature. With regard to the comparative value of roots and grains with English hay, we refer our correspondent to the monthly *Farmer*, for February, 1859, page 91. We also give the following from an article, published in the *Farmer*:

The following table, gathered from reliable sources, shows the value of potatoes, carrots and ruta bagas, the roots usually grown for stock, compared with *good hay:*

200	lbs. of potatoes	are	equal	to	100 lbs. of hay.
250	" carrots	"	"	"	"
300	" ruta bagas	"	"	"	"

Again, by allowing 60 pounds to the bushel of the above roots, we have the following:

67	bushels of potatoes	are	equal	to	a ton of hay.
92	" carrots	"	"	"	"
100	" ruta bagas	"	"	"	"

By this estimate, with the usual yield per acre, it will be seen that root culture pays; a fact of which many a farmer and stock-grower has been convinced by practical demonstration.

On good land, and under good cultivation, a fair crop of oats is 40 to 50 bushels; corn, 40; rye, 25; barley, 30; wheat, 20; potatoes, 100 to 300; carrots, 400 to 800; ruta bagas, 300 to 600; flat turnips, 300 to 700. These crops vary greatly

in consequence of the favorableness or unfavorableness of the season, the kind of soil they are upon, and the skill with which they are managed.

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FEED FOR HORSES.

1. How many pounds of hay are required for a horse of 1000 pounds, the hay cut and mixed with two quarts of meal?

2. Can you tell me what those who send horses into the country, to get them kept through the winter, have to pay per week? What is it worth per week on good hay and two quarts of meal a day? J.

REMARKS.—1. No definite answer can be given to the question; it depends partly upon the work that a horse is doing, and partly upon the animal himself, as some horses of the same weight and performing the same amount of labor as others, require much more food. It is so with men. You can satisfy yourself with the experiment of two or three weeks by weighing the hay you feed out each day. We kept a horse well that weighed 1100 pounds upon sixteen pounds of hay per day, cut and mixed with two quarts of corn meal—half in the morning and the other half at night, and at noon four quarts of carrots. Upon this feed he worked every day, and kept in good condition.

2. There are persons in the country who make it a business to winter horses for city people, and traverse the entire city in the autumn to obtain them. The general rule in fixing a price is, when hay is worth $10 per ton to charge $1 per week; when $15, charge $1,50, and when $20, charge $2 per week.

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TIME OF CUTTING TIMBER.

The seventy years' experience of Mr. Baker, of Dedham, in cutting timber, is worthy of great regard, as is everything coming from a source so venerable. But when he undertakes to trace the endurance of the timber to the position or age of the moon, at the time of its being cut, he goes beyond the record. There is no good reason whatever to believe that the moon has any influence on vegetable growth or vegetable endurance. I have often heard these things charged; but after more than fifty years' observation, I have never witnessed any connection between the two. I think it is one of those traditions that should be laid aside. I remember to have heard a man of as much wisdom as I ever knew, and eighty years' experience, say, in relation to the cutting of bushes, that the moon had no more to do with it than the "Man in the Moon." With this opinion I fully concur. ESSEX.

December 31, 1860.

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WHITE BIRCH AND WHITE PINE SEED.

Please inform me through your paper where I can procure the white birch and white pine seed, and how much it takes to sow an acre.

A CONSTANT SUBSCRIBER.

Derry, N. H., Jan., 1861.

TOP-DRESSING.

1. Is guano adapted to a deep clay soil, once meadow, but upon which English grass has come in and choked out the meadow—a soil that is too heavy to plow and not easily drained? 2. Would ashes be better than guano? 3. How would lime and plaster do for such a soil? 4. Would the effects of guano be seen the coming summer if put on as soon as the snow is off? 5. What is guano per pound? J.

Francestown, N. H., 1861.

REMARKS.—Guano is well adapted to just such soil as you describe. Apply it during a gentle rain in April. 2. We should prefer the same money's worth of ashes. 3. Guano or ashes would be preferable to lime or plaster on such land. 4. The effects of the guano would undoubtedly be seen the first summer after its application, if it were applied immediately before, or in the midst of a rain. 5. Peruvian guano sells at about three cents per pound,—the American at a little more than two cents.

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IS LABOR DEGRADING?

Among certain people the idea seems to prevail that labor is degrading; that is, such labor as a farmer is obliged to perform. Digging the potatoes he eats, would, in the estimation of some, degrade a man more than the forging of a note. I have at present in my mind one case of a young man of good ability and who was also once of moral excellence, who left Dartmouth with this idea, expressed in his own words—"I cannot beg, and to dig I am ashamed." Not long after he left, his funds were gone, and to replenish his purse he resorted to forgery, and the result was, that his home for two or three years was in the Massachusetts State Prison. Nor is this a solitary case, but one of many. The question that has often presented itself to my mind is this: Would not the public good be much better promoted by dispelling the idea that labor degrades, than by adding agricultural departments to the colleges now in existence, or the founding of new colleges?

Will some one give their ideas on the subject?

A YOUNG FARMER.

Hanover, N. H., Jan. 3, 1861.

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PROFIT OF SHEEP.

There has been considerable said in your paper concerning sheep, and the great profits which are derived from them. As I am about going in for a good flock of them, there is one thing which has bid me stop and consider. How can I keep my farm up in a good state of cultivation? Are sheep as good for the farm as other stock? This should be looked at as much, and more, than the profit of a day or a year. Will you or some one answer? N. MATTHEWS.

Henniker, N. H., Jan. 1, 1861.

REMARKS.—By reference to the columns of the *Monthly Farmer* for the year 1860, you will find this very point treated at considerable length.

There is no doubt on our mind but the fertility of the farm can be better kept up with sheep

than with any other stock. In order to do this, they must be well housed and fed, and provided with yards suited to hold and preserve their droppings. One of the best things you can do is to visit good, practical farmers, who are keeping sheep, and learn their modes of practice. It will be cheaper to spend five dollars in this way, than to lose twenty-five by experimenting on a subject with which you are not acquainted.

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DEEP PLOWING.

Mr. Merriam, of Fitchburg, is reported to have said at the late meeting of farmers at the State House, that "he plowed his lands four feet deep for Indian corn, using a Michigan plow." This may be true—but I have no conception of it. He may have said four inches deep—but this would have been as wild the other way. I admire to read these sayings and doings of practical men, but I admire them most, when they give unmistakeable indications of common sense—and not the contrary. P.

January 12, 1861.

REMARKS. — We heard Mr. MERRIAM'S remarks, and suppose he said *fourteen inches* deep, and not four feet.

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AUSTRALIAN OATS.

I noticed in one of the last numbers of the *Farmer* an inquiry for Australian oats. Allow me to say that I have raised them for two years past with good success, yielding about one-third more to a bushel sowing than the old kind. The straw is large and not liable to lodge. They are worth here, pure and clean, 75 cents per bushel.

Cabot, Vt., 1861. C. M. FISHER.

SPIDERS.—A learned entomologist, who has made a special study of the structure and habits of spiders, states that there is not a single authentic case on record of a person being killed, or seriously injured, by the bite of a spider; all the stories about the fatal bite of the famous tarentula being simply fables. These insects are, however, exceedingly ferocious in their fights with each other; their duels invariably ending in the death of one of the combatants. In some species, the first step of the young as soon as they are hatched is to eat up their mother.—*Scientific American.*

MUCK SWAMP—*Roxbury, Vt.*—We have examined, with some care, the specimens of muck handed us from Roxbury, Vt. They are composed of mixed substances, some of which would be of great value both as absorbents and fertilizers. If the parcels handed us are now in the form in which they were originally deposited, an examination of them will show that the strata composing the mass are made up of substances quite unlike each other. The *black* stratum is a mass of highly decomposed vegetable matter, while that of a *slate color* is very fine, with little vegetable fibre, and is a sort of mingling of calcareous and argillaceous, or clayey and chalky earth. Upon the application of vinegar to the muck there was a slight effervescence. This clayey substance is less valuable than the former, and especially so as an absorbent, as it has little absorbing power compared with the black mass. Taken together, however, the vegetable matter so greatly prevailing, we should think the muck highly valuable on a farm made up of sandy, or sandy loam, lands.

For the New England Farmer.

THOUGHTS AND QUERIES.

MR. EDITOR:—In the last issue of the weekly *Farmer*, for the year just closed, you expressed a hope that young men would more generally contribute articles for the columns of the *Farmer*—your desire being to obtain their ideas, whether or not they be couched in language plain or more obscure; it is this frankness which wins my confidence, and impels me to attempt the untried task. The means which farmers' sons have for obtaining information of current events are usually confined to the contents of the family almanac or the local newspaper.

The contributions of such would perhaps contain *original* ideas, but might be absurd or useless ones. The limited access which I have had to the sayings and writings of the public men of the country, has made me observant of the expressions of their high regard for the independent and patriotic tillers of the soil, patronisingly terming them the "incorruptible people," "the lords of the soil," "the sovereigns in whom is vested the governing power," and so on; displaying the beauties of their vocation with such a prodigal use of the poor Saxon as to create an unbelief in its sincerity.

If, indeed, it is such an ennobling occupation as they describe it, why do they not engage their powers in its labors? Or are they even self-sacrificing and philanthropic; such disinterestedness must certainly be endurable if not commendable.

Why does one of the leading journalists of the country advise all young men who are anxious to gain wealth, or honor and fame, to remain in the country, upon the farms, rather than to seek their fortunes in the city? Had he received and obeyed such instructions, possibly we might never have been blessed with the teachings of the immutably philosophic Greeley.

No one will question the right, even if he does the propriety, of farmers' sons cherishing aspirations as high and noble as the sons of professional men. Does not the farmer receive proportionately less pecuniary reward for labor than the mechanic or the professional man? If this is so, why wonder that the farmers' sons seek less laborious, and better paying employment. Farming, no doubt, is very agreeable employment to those who can command a generous capital, requiring of them very little or no physical labor; also pleasant to those who enlarge upon its beauties, its prosperity and independence—but at the same time are ignorant of the practical difference between speaking of, and performing its various appointments. Ambition is an element of our natures, few of us being exempt from it. Some are desirous of ob-

taining wealth and power, as a means of securing happiness, while others are satisfied with distinction at the sacrifice of time and money. There is undoubtedly a proper sphere for every mind, in which it should be employed, but how shall the appropriate one be designated?

Happiness is that possession which of all others is the most desirous. Contentment is happiness: and if we are not satisfied with what we are, shall we not strive to reach that goal which promises higher enjoyments? G. F. T.

Dover, N. H., Jan. 14, 1861.

REMARKS.—There are exceptions to all general rules. Some boys, while quite young, show a most decided inclination for one particular pursuit, in preference to all others. Such an inclination should never be disregarded, as, in nine cases in ten, he will distinguish himself in the profession he has chosen.

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER BY THOMAS BRADLEY.]

This *third meeting* was very well attended by those who have the prosperity of the farmer at heart.

The meeting was called to order by Mr. WALKER, of Brookfield, who introduced Hon. JOHN BROOKS, of Princeton, as the presiding officer of the evening. Mr. Brooks, on taking the chair, thanked the meeting, and announced that the subject for discussion was, "*What kinds of Farming are most Profitable in the different parts of the State*," saying that, as the question embraced the whole State, he would not detain the meeting by an address, but should be happy to hear from the farmers from the different counties as to their experiences. He said there were two kinds of farming to be considered, high and low, intensive and extensive, the latter where labor was dear and land cheap, and the former where labor was cheap and land dear; there was also special farming, as garden, fruit or flower farming, in some parts. In other parts of the State a system of less intensive farming was carried on, such as dairy farming, where milk, manure, and hogs were the chief objects; but these, of course, were more numerous, and paid best where there was a contiguous market for milk and pork. There is then, said he, a wider range still in stock farming, which is, perhaps, the most profitable, while there is still another part where sheep farming undoubtedly pays the best, and he was satisfied that, with the proper attention, this last might be made even more profitable than it now is. He closed by hoping the members would not wait to be called on, but give their views on the question.

Mr. WHITE, of Petersham, said that in Worcester County the farmers had various opinions on the question, and that in the vicinity of his town the mixed system of farming prevailed; but more attention was paid to the dairy than to any other branch. They also raised good stock which they would not hear spoken of disparagingly. In the summer they had excellent pastures, and their crops were second to none in the State, of those kinds required for dairy stock. There are few branches of farming, said he, that require more attention than successful dairy farming, and if the statements he had received from some of the farmers in his county were reliable, and he thought they were, he would say that this was among the most profitable branches of farming.

He spoke of a farmer in Barre who kept 16 cows, and said that last year these had produced 440 pounds of new milch cheese, at 10 cents per pound, per cow, and he was satisfied this would be considered as profitable as could well be desired.

Mr. PROCTOR, of Danvers, said he had seen something of the culture in Essex county, and in his neighborhood the men who cultivated from 5 to 30 acres, made as high as $40 per acre on it by plowing thoroughly and manuring freely. All kinds of vegetables are raised there, and, until the destroyer, in the shape of disease came, the most promising crop was that of onions. Within a small circuit of his residence the speaker said he had known of 100,000 bushels being raised in one season, and had known many men who had made more than $100 per acre, clear of expenses, in raising this crop. This, said he, is a crop which does not exhaust the soil, as with successive crops for 20 years the land will produce as high as 500 bushels to the acre. Hay is also grown of good quality, and from one to two tons to the acre, while beets and carrots were also a good paying crop. Few realize so much by general crops, as by the special crops for marketing, corn rarely producing more than 20 or 30 bushels to the acre; still, within the past year, 30 bushels of wheat per acre had been harvested in many instances, and he hoped to see this grain more cultivated than it had been heretofore.

Mr. BUSHNELL, of Sheffield, said he would speak for Southern Berkshire, where more attention had been paid to grain crops than had been usual until recently, and he believed it was profitable. For some years sheep had been the chief subject of interest, and, even now, Berkshire county has 40,000 of the 130,000 in the State; but in a great measure owing to the ravages of dogs, this branch of farming, which had heretofore been very profitable, had been given up. He hoped to see some action taken to strictly enforce the dog law, when he had no doubt it would again prosper. The sheep in Berkshire county were the fine wooled sheep, and they had been kept for their wool, while in the vicinity of a mar-

ket the mutton would of course be an object. Their sheep were the Spanish or Vermont Merino, not perhaps a pure Spanish Merino, but near enough to produce an excellent wool. From these they obtained from 3½ to 6 lbs. of washed wool per head, and in ordinary times this sold for 50 cts. per lb. It is sometimes lower in price, but by keeping it over a year it will gain more in weight than enough to pay the interest. Some farmers make money by raising lambs for market, a cross between the Merino and South Down, and a large number of these are so disposed of. The farmers in the county raised corn, oats, rye and wheat, the latter of very good quality and yield, but few raise more than enough for home consumption. He had no doubt if sheep husbandry was generally introduced, it would be found the most profitable branch of farming in the State.

Mr. BROWN, editor of the *N. E. Farmer*, asked the gentleman whether sheep husbandry had, or had not, a tendency to exhaust farms more than the raising of any other stock?

Mr. BUSHNELL said he had been engaged for 30 years in sheep husbandry, and he knew that he had raised the value of his farm 50 per cent., by stocking with sheep. Where land can be plowed, sheep will improve it very much; you can make them lie on any part of the field you want them to, by erecting a cheap structure for shelter for them, on wheels so as to move it to different parts of the farm, and by placing a little salt under this shelter, the sheep will always stay there, except when they are feeding; and by this means, you will in time have the whole fertilized, and this course would be of advantage on land that cannot be plowed. He plowed his land once in three years, and reseeded, and got good crops of corn, spring wheat, &c., when he again sowed, and was sure of a good return.

In answer to another question, the speaker said that they had fences generally in his county, but he was satisfied that sheep could be educated, and even if they jumped walls, a rail placed on the top would check this disposition; the fine wooled sheep rarely jumped, although they would creep through holes in a fence wherever they found them. He closed, by saying he thought they were the pleasantest stock a man could have on his farm.

Hon. JOSEPH WHITE, of Williamstown, being called on for Northern Berkshire, said he had only lived a year in the county, but he agreed to the views advanced by the last speaker, and spoke in high terms of sheep husbandry. He spoke also of the fine short horned cattle raised in Berkshire, but said that since the grant to Williams College, and the railroad had been opened from Adams to Troy, sheep husbandry had taken a fresh start. Mr. White spoke of Mr. Harrison's farm at North Adams, consisting of 200 acres of intervale, whose barns, sheds, cattle, crops and income are the best of any in that section.

Mr. PAOLI LATHROP, of South Hadley, said that in Hampden county, all along the Connecticut River Valley, the farmer raised a variety of crops, and their grain crops had been excellent. Spring wheat, where it can be got in in the fore part of April, was a sure crop. Winter wheat, broom corn and onions are extensively grown. It had been asked him whether a pound of mutton could be raised as cheap as a pound of beef, and he was sure that, apart from the wool, it could. He spoke of the cost of grinding corn for cattle, and said that for sheep this was saved, as the sheep digested all its food. He would recommend the South Down for mutton, as it was more easily fattened, and brought a higher price in the market than beef. He had seen a two years old sheep weighing 380 lbs., and two ewes weighing 660 lbs., bred by Mr. Stone, of Canada, who was noted for having the best flock of sheep in the country. Mr. Buffum, of Walpole, N. H., had 32 ewes in his flock, which cost him $100 each, and he yearly put down 40 acres of his farm to root crops for his sheep, making a handsome income from them.

Mr. SEARS, of Yarmouth, spoke of farming in Barnstable county, and said their best paying crop was cranberries, and told, as an exception, not as a rule, that as much as $1750 had been realized in a single season from one acre of land, and of a cranberry meadow that had been sold in the spring for $1500, from which the purchaser had cleared $1100 the same year from the crop. The average yield of cranberries, he thought, was $500 per acre.

Hon. JOSIAH QUINCY, Jr., of Quincy, being called on to speak for Norfolk county, said the best crop he had found was manure. He raised 350 tons of hay, kept 80 cows, and followed Dana's method of mixing his manure with swamp muck, and by this means made 100 cords per month. The cotton seed and other meals which he feeds to his cows, make the manure exceedingly rich. He considered manure the most advantageous crop a farmer could raise, and it should be his first care. He believed in top-dressing, and spoke of McDougal's disinfectant which he was trying, and which he had found to nearly destroy the smell in his stables. If this proved successful in what was claimed for it, it would be of immense advantage in top-dressing, by holding the ammonia in the manure for the rain to disperse.

Hon. CHARLES G. DAVIS, of Plymouth, said there was no *regular* farming in his county, but there was a strong disposition there to get a living from their land. It was impossible to say, as

a general rule, what crop was most profitable, as adjoining farms differed so much. He had visited a majority of the towns in the county last summer, and was surprised to see so many good farms. He spoke of the fine fattening land in Hingham, and so far down as Marshfield and East Bridgewater. He complained that the farmers in his county did not make as much as they could from the marine manures, and hoped there would be more advantage taken of this cheap fertilizer. He said that they derived an advantage of absence from frost of 6 weeks over Berkshire and Worcester counties. He thought it would be well to find out how much manure could be judiciously expended to produce the best grass crop, and in this connection he spoke of a lot of meadow land owned by Mr. Boynton, of Sandwich, consisting of 4½ acres, located behind his livery stable in which he kept 15 horses. The whole manure from his stable was put on this land, which was top-dressed in November, and he had cut from 26 to 34 tons of hay a year, last year cutting 26 tons the first crop, and from 7 to 10 tons the second. He said that on land which was fit for grass they could raise grass, or its equivalent in fodder, and do better than with anything else; but where this could not be done, nothing paid better than keeping sheep.

Mr. SIMON BROWN, of Concord, being called up for Middlesex county, said the county was singularly situated, as she has a market at her doors, having large cities and towns close at hand. In consequence of this, large quantities of vegetables were raised, principally asparagus, celery, turnips, beets and potatoes. They commenced taking potatoes to market by team about the middle of August, and continued this until October, when the crop came in from the North and East. The farmers keep their horses and boys on the road to market, and by this means there are from $8,000 to $10,000 worth of potatoes sold at good prices from some of the small towns where they are raised. Asparagus was also extensively cultivated, and a good deal of money was made by it, by sending to Boston, Lowell, Worcester, Lawrence and other large places in Essex county. Milk was another large source of revenue to the farmers of the county, and from Concord alone from 50 to 100 barrels were sent to Boston per day through the year. To supply this, they had to raise a good many roots, and this gives employment to a great many people. The stock of cows has been so essentially improved, as to nearly double in value, within the past ten or fifteen years, and at the same time the farmers have increased in wealth and their farms in fertility.

Mr. Brown then spoke of the raising of fruits in Essex, Norfolk and other counties, and said that some of the finest orchards in the State were to be found in Middlesex county, and before "the yellows" destroyed the peach crop, the town of Lincoln alone realized from $8,000 to $9,000 from this crop. In other high lands in the county good crops of peaches are now grown, and a dealer had told him last year more came to market from the town of Westford than from all the other towns in the State combined. He spoke of the excellence of the apples raised in this county, particularly those grown on granite bottoms, and said that the dealers preferred these as they were more crisp, and kept better, and to obtain these they were in the habit of going to New Hampshire for them. Middlesex county, said he, as a whole, is improving in her agriculture, and this was evident in the better appearance of her farms, the buildings were better, the barns were improved, the fences were good, and on entering the houses you find better furniture, more books, and more of the comforts of domestic life than were to be found ten years ago. He closed by urging on the members of the Legislature and the farmers of the State the importance of attending and taking part in the discussions at these meetings, as in his journeyings through the State he had found an intense desire to know what was done at them by those for whose benefit they were held.

Mr. TYLER, of Somerville, said that from his experience he was satisfied the saving in cutting hay would more than pay the expense incurred for fattening cattle, and Mr. QUINCY entirely coincided with him.

Prof. CLARK, of Amherst, being called on, said he had no idea that a man known not to be a farmer would be allowed to speak at these meetings, but he would say that the discussion he had heard showed that there was a great amount of practical information which, if it could be put in form, would be of incalculable service to the rising generation. We have heard, said he, of stock raising, about manures, the dairy and the raising of cranberries, and he would earnestly recommend that more attention be paid to the raising of farmers.

Mr. ATWATER, of Springfield, said that the farmers in his county had latterly paid great attention to rotation crops, and in doing this were using all their available manures, turning their fields to grass until the yield falls below 1½ tons per acre. They are also draining the low lands successfully. On the sandy lands they are doing well by sowing two crops of buckwheat and red top afterwards. In the hilly parts of the county, hay, gathered at an expense of $3 per ton, is a leading crop, and then follows corn. Attention is particularly turned also to ascertaining the actual cost and profit of each crop, and he hoped this would be more generally followed throughout the State.

Dr. LORING, of Salem, said that to a certain ex-

tent the most profitable crop was manure, but this depended somewhat on the manner in which it was applied after you have got it. He made his compost as Mr. Quincy did, and top-dressed his land, which was a heavy clayey soil. He thought that, if a farmer stocked his farm to its utmost capacity, while he thought that he was working for his cattle, his cattle were, in fact, working for him. The speaker said he principally devoted his farm to stock-raising and fatting stock. He also kept hogs, but he kept them on the starvation principle, using them for their work, which was valuable. He endeavored to carry on his farm at as little expense as possible; he did not cut his hay for feed, because his cattle had the machinery for cutting it themselves, and he further said that he thought that in the cut and wet state it furnished no additional nutriment. He raised 6000 bushels of roots last year, and he considered them as profitable as any other crop, as his land was not suited for corn, neither was the climate. He spoke of the productiveness of market gardens in the country, and said he did not think there was an acre of ground in the State that, with the proper labor, cannot be made to pay.

Dr. MASON, of Dartmouth, said the crop in Bristol county was principally hay, and their market was New Bedford; the system of farming was mixed, and but few sheep were kept.

Mr. DAVIS, of Plymouth, spoke of an order which was before the present Legislature in relation to dogs. He thought that if the law, as it now stands, was enforced, it would answer the purpose designed, but he blamed the Selectmen of towns for not enforcing it. He suggested the appointment of a commissioner in each town by the executive, to enforce the law, who would be independent of the vote of the citizens, and thus act as a check on selectmen and police officers.

Mr. BUSHNELL, of Sheffield, suggested that towns be made liable for the value of sheep destroyed by dogs.

Mr. SANDERSON, of Bernardston, said that farmers living on the Connecticut River excel in raising and fattening stock, and in dairy products. They looked like a very respectable body of men, and appeared to be in good circumstances, but he did not know whether this was from the profits of the farm or not.

It having been announced that the subject for discussion at the next meeting would be "*Manures and their Application*," and that Professor Clark, of Amherst, would preside, the meeting adjourned to Monday evening next, at 7 o'clock precisely.

HOW TO MANAGE BONES.—A correspondent of the *Journal of Agriculture* gives the following as his experience, every other year, for the past ten years; that being as often as he could collect bones enough to fill a tub.

With a sledge hammer break the bones into pieces of one, two or three inches; take a hogshead tub, put in two or three inches of hard wood ashes, the same depth of bones; then ashes and bones until full; pound or press solid as convenient; fill with water or urine, all that it will absorb. If done in the spring or summer, by the next spring it will shovel out fully decomposed, the bones being as soft as chalk.

Then, add all your hen manure, shovel and rake it over once a week, for three or four weeks before planting time; by that time it will be finely powdered. Put about equal to a handful of the compost into a hill, for corn, potatoes, squashes, melons, &c., when it will be found to forward the crops to a wonderful degree.

For the New England Farmer.

MORE ABOUT BEES.

MESSRS. EDITORS:—The breeding and management of bees is far behind most other pursuits. I doubt whether there are as many bees kept in the country now as there were twenty-five years ago. Bee-culture has been "running down." People neglect their bees, seem not to study their nature and habits, yet attend to their poultry, swine, sheep, horses, neat stock, farms, &c. Breeds must be crossed, number of males regulated, suitable food and shelter prepared, &c., &c., but who thinks of applying the same principles of inexorable nature to bees? Who has dreamed that bees would be more profitable for "crossing," or that controlling the number of males, and the number of swarms, might be a pecuniary advantage? I find mother nature just as true in bee-culture as in stock or poultry-culture. Bees need a suitable habitation as well as swine, and though it is not quite so much expense to prepare food and shelter for bees as for swine, yet the bees pay me the best. In the poorest seasons I expect an average of $5 apiece net profit, on good swarms; in good seasons some yield $15. The cost of keeping bees is comparatively nothing after the stocks are procured, and hives should not overrun $1,50 each; nearly all the care necessary can be given at odd times, mornings, noons or evenings, by almost any adept, whether farmer, mechanic, tradesman, doctor, lawyer or clergyman, and will be very pleasant as well as profitable. What is more beautiful than a virgin-white honeycomb, or more delicious to the palate, or more wholesome? Who can look upon it but to admire the mathematical skill in its construction, the ingenuity displayed, and not inwardly ask, is here not intelligence, and an example of industry worth preserving?

I find from years of experience, that bees will "run out" where bred in and in without opportunity for "crossing," and that they can be improved by bringing vigorous swarms from a distance and keeping with others. In some locations bees are kept sufficiently near for all practical purposes of crossing, while in others, they are miles distant. I have usually found wild swarms more vigorous and smart than tame, and profitable to place with them. Bees sometimes swarm too much—then, again, not at all, though apparently they might just as well as not; but

with perfect ease and safety, those that won't can be made to, and those that swarm too much or too small—two small ones should be hived together. I have sometimes put three together, all right.

A poor swarm is not worth keeping, and should be either strengthened or put with another small one; this can be done early in spring, or late in the fall, in the same apiary, but in summer it is more difficult, as bees are so attached to their particular locations: yet it can be easily accomplished by moving one or the other a mile or more distant.

Perhaps the reader may think such freedom with insects armed with daggers, somewhat difficult, if not dangerous; but let me assure him that these, and far more difficult operations, can be performed with perfect safety and ease; and that others as well as the writer of this, open their hives any time they choose—cut out combs or honey, divide and double swarms, take out all the contents of hives, the queens, see the brood, larva, eggs, &c., and show to visitors at all times through warm weather. C.

New Britain, Ct., 1861.

For the New England Farmer.

CHARCOAL-BURNING, AND A REMARK ON COB MEAL.

MESSRS. EDITORS: — Recollections of years long passed by frequently flit through my mind, and among others, that of charcoal burning. At a period extending from 1785 into the present century, coal burning was much more practiced among farmers than at the present day. Till within a few years, wood-land was considered hardly worth taxing. Farmers that owned large wood-lots in this vicinity had no opportunity to dispose of their wood, short of teaming it from fifteen to twenty or thirty miles; that being the case, those wood-sellers who lived nighest to the cities and large villages could supply them to much better advantage than those from more remote towns; this circumstance was an inducement to the more distant farmers to char their wood, for the greater convenience of carrying it to market, it being much lighter for transportation after being made into coal. Three or four cords of charred wood might be carried at a load, probably, which would reduce the expense of teaming, beside the profit of charring the wood. The operation of carbonizing wood, economically, is a very nice chemical operation; experienced coal-burners, though ignorant of chemical phrases, gain their knowledge, almost to perfection, by practice. They know that too much ventilation causes a rapid combustion, which decomposes the wood, and reduces it to ashes, and that just air enough admitted to continue a slow combustion will insure a good yield of coal. Ignorant and careless coal-burners have burned their wood to ashes, and made a losing business, while others, more careful and scientific, have made coal-burning profitable.

Coal-burning, in this region, has been on the decline, till we seldom see a coal-pit. Since the construction of manufacturing establishments, railroads and new villages, the demand for wood has been so great, and the markets so handy, that charring wood is nearly done away. Charcoal-burning was considered a healthy business, notwithstanding the annoyance of smoke. The smoke of a coal-pit has a peculiar smell, which will penetrate the air for miles around, and is a sufficient messenger to give intelligence, to distant neighbors, that coal-pits are afire. The time of firing these huge piles of wood, covered with turf, was anticipated with eager expectation, as a day of great glee, by the boys and girls of the neighborhood, who enjoyed the sport of a circuitous run through the smoke. Charcoal is useful for several purposes, beside fuel; it has strong antiseptic properties, and is useful in staying putrefaction; swine are fond of it at times, to correct a morbid tendency in the maw, which is indicated by the avidity they show in craunching it down; they will leave their food to eat coal, when the desire for coal predominates.

COBS AND COB MEAL.

Farmers express different opinions about the value of cobs as food for domestic animals; some regard them as no better than saw-dust, while others think they contain nutriment. I agree with the latter, in opinion, from practical observation. Soon after the last corn harvest, I had occasion to shell a quantity of corn before the cobs were fully dry. I sat by our oxen and cows, broke up the cobs, and fed them to the cattle, who devoured them with apparent good relish. I have often fed cattle with cobs before, and observed them to feed at a heap of thrashed cobs for a definite time, but as cobs grow dry they become tough, and hard to masticate, and therefore cattle are not so fond of them. Cattle and swine, like human beings, have an instinctive preference for those substances which afford nourishment to the body, which is evidence in my mind to prove that cobs are nutritious to cattle. Ruminating animals are furnished with digestive organs capable of extracting nutriment from substances which for swine would be entirely inert. Swine being destitute of the ruminating apparatus, derive no nutriment from cobs, ground or unground, after the corn is ripe. I have repeatedly given my hogs ears of corn partially ripe, and they were very careful to avoid as much of the cob as possible. I have occasionally fed my swine, of late, with cob meal, and the poor brutes resented the treatment like a dainty boarder, and would grunt for unadulterated meal. On the whole, I have made up my mind that cob meal is very good for cattle, but worth less for hogs. Cobs, by the pound, are probably of equal value to buts and stalks, and when ground with the corn, are a substitute for chopped fodder for cattle and horses. SILAS BROWN.

North Wilmington, December, 1860.

YALE AGRICULTURAL LECTURES.—Apprehending the effect of the present state of the country in diminishing the interest and usefulness of an agricultural convention, it has been decided to postpone a repetition of the "Yale Agricultural Lectures" to another year. The regular lectures of the Institution on Agricultural Chemistry and the general principles of Agriculture will be given as usual, commencing Feb. 1st.

For the New England Farmer.

TABLE OF CUBIC MEASURES.

Measurements of cubic contents are usually made in feet or in inches, and if the volume is wanted in any other measure, such as yards, perches, bushels or gallons, the necessary reduction is made from the result of the first measurement.

For the purpose of lessening the labor of such reductions, I have constructed the following tables, which many readers of the *Farmer* will, without doubt, find very useful, as they give in a convenient form the relations which several of our units of measure bear to others.

Its use is as follows: Suppose you wish to find the number of yards in a cord,—the word "Cord" is found at the top of the table; under that, and opposite the word "Yard," will be found the number of yards in a cord, which is about four and three-quarters. If the number of feet contained in a bushel is wanted, then the word "Bushel" will be found at the top, and "Foot" at the side; under one, and opposite the other, will be found the number required, which is about one foot and a quarter. Opposite "Bushel" and under "Foot," you find that a foot is about eight-tenths of a bushel; now suppose a bin for holding grain to measure 12 feet long, 8 feet wide and 5 feet deep, then $12 \times 8 \times 5 = 480$ feet,

multiply by .8

and the result 384.0

is the number of bushels, very nearly. The work can be more accurately done by using the full decimal given in the table.

It will also be seen by the table that there are

216 feet in a square.	1728 inches in a foot.
128 " " cord.	537.6 " " peck.
27 " " yard.	268.8 " " gallon.
24¾ " " perch.	67.2 " " quart.
2150.42 inches in a bushel.	&c. &c.

TABLE No. 1.

	Square.	Cord.	Yard.	Perch.	Bushel.	Foot.	Peck.	Gallon.	Quart.	Inch.
Square,	1	.5926	.125	.11458	.005761	.004630	.001440	.000720	.000180	.000003
Cord,	1.6875	1	.21093	.19335	.009722	.007813	.002430	.001215	.000304	.000005
Yard,	8.	4.7408	1	.91664	.046089	.037037	.011522	.005761	.001440	.000021
Perch,	8.7273	5.1718	1.0909	1	.050280	.040404	.012570	.006285	.001571	.000023
Bushel,	173.576	102.862	21.6971	19.8885	1	.803568	.25	.125	.03125	.000465
Foot,	216.	128.	27.	24.75	1.24445	1	.311112	.155556	.038889	.000579
Peck,	694.306	411.448	86.7882	79.5540	4.	3.21427	1	.5	.125	.001860
Gallon,	1388.61	822.896	173.577	159.108	8.	6.42854	2.	1	.25	.003720
Quart,	5554.45	3291.58	694.306	636.432	32.	25.7142	8.	4.	1	.014881
Inch,	373248.	221187.	46656.0	42766.8	2150.42	1728.	537.605	268.803	67.2006	1

The *square* is used by contractors for moving earth, and is a cube measuring 6 feet each way, and containing 8 cubic yards. The superficial square is used in measuring the area of the various kinds of roofing; it is a square surface measuring 10 feet each way, containing 100 square feet. It is said that one thousand shingles will lay a square, but as they are usually put on, they will lay a few feet more than a square. The yard used in areas is a suface measuring three feet each way, containing nine square feet.

The *perch* is used by masons in laying stone-work—supposing the wall to be a foot and a half thick, then a rod in length of the wall one foot high will contain one perch, or 24¾ cubic feet. The superficial perch is a square surface measuring sixteen and a half feet each way, containing two hundred and seventy-two and one-quarter feet. An acre contains one hundred and sixty perches.

The *bushel* is the old Winchester bushel of England, which is used in the United States as a standard for dry measure; the Imperial Bushel, which is the present English standard, contains 2218.182 cubic inches.

The *gallon* here given is the standard for dry measure, and contains 268.8 cubic inches. The standard gallon of liquid measure contains 231 cubic inches. The old Ale gallon contains 282 cubic inches. The Imperial (English) gallon contains 277.274 cubic inches. A gallon (231 inches) of distilled water weighs 8.3389 pounds, Avoirdupois. The standard Avoirdupois pound is equal in weight to 27.7015 cubic inches of distilled water. A cubic foot of water weighs about 62.38 pounds.

The following table shows the relations of the cubic contents of each kind of gallon to the others, and also to a cubic foot and a cubic inch:

TABLE No. 2.

	Foot.	Ale Gal.	Imp. Gal.	Dry Gal.	Liq. Gal.	Inch.
Foot,	1	.163194	.160460	.155557	.133681	.000579
Ale Gallon,	6.12766	1	.983241	.953202	.819149	.003546
Imperial Gallon,	6.23210	1.01704	1	.969450	.833111	.003607
Dry Gallon,	6.42850	1.04910	1.03151	1	.859365	.003720
Liquid Gallon,	7.48052	1.22078	1.20032	1.16365	1	.004329
Inch,	1728.	282.	277.274	268.803	231.	1

The complaint is often made against such tables as these for common use, that the decimal notation is not well understood. There is a constant use of this notation in dollars and cents, as $374,63, in which .63 is a decimal, called sixty-

three hundredths, and it seems to me that any one who can compute annual interest, which is simply multiplying by the decimal .06, can have no difficulty in using these tables.

J. HERBERT SHEDD,
Agricultural Engineer.

Boston, Jan. 19, 1861.

For the New England Farmer.

WHEAT IN MASSACHUSETTS.

How are we to account for the fact, or the opinion, that a few years ago it was of no use to try to raise wheat?

Now, it is a common practice for farmers to sow a patch, one, two or three or more acres, fall or spring, and with as good success as with any other grain. More bushels, per acre, of wheat than rye are raised, and more value than oats, or even corn, taking the labor into account.

Have the seasons changed, or was the opinion which prevailed for a period not well founded? The two last seasons have proved unusually favorable for wheat; and, as they have been cool and more than ordinarily even in temperature, while the grain was maturing, some observing persons have attributed the result largely to these facts.

The corn crop, during these two years, has not come up to the average, especially in 1859.

On 91 rods of land I sowed the 27th of Sept., 1859, one bushel of wheat, rolled in tar, plaster and ashes, from which I had 25 bushels of choice wheat, being at the rate of 44 bushels per acre. On one-half the patch I sowed a bag of 160 pounds of guano, but could perceive no difference in the lot. Practically, that experiment may stand as a representative one, reaching over a term of eight or ten years. It had been under cultivation five years—the first in corn, three carrots, and again corn.

I have seen accounts of much larger yields of wheat, and forward this, in order to add the testimony of a moderate farmer, that wheat can be raised to advantage in our own State.

While on the subject, I should like your opinion whether wheat improves by age? I had supposed the contrary was the fact. But happening to keep over a barrel or two of spring wheat until three years old, I found it made superior flour, equal to the best St. Louis, while the first year, we regarded it only as ordinary. S. S.

Amherst, Mass., Jan. 14, 1861.

REMARKS.—If wheat is improved by age, it is a fact new to us.

BARLEY FLOUR.—Our old friend, A. PEASE, Esq., of Newport, N. H., formerly well known by the newspaper fraternity, handed us a sample of *barley flour* to-day, which is very fine. It is nearly as light colored as wheat flour, is perfectly sweet, and has a slight taste of that peculiar barley flavor so much esteemed by many persons. It was made from a crop of barley yielding nearly *fifty* bushels per acre. This is a good example, which we trust many will profit by.

SHEEP AND SHEEP CULTURE.

BY DR. JOSEPH REYNOLDS, OF CONCORD.

The following extracts are from an excellent Report to the Middlesex Agricultural Society, upon the subject of *Sheep* and *Sheep Culture*, by Dr, Joseph Reynolds, of Concord, a gentleman familiar with the care of sheep in his youth, and who has given them more or less attention all through life.

Previous to 1812, most farmers in the county kept a few sheep, and many who did not claim to be farmers kept one or more cossets to supply wool for domestic use. The wool was spun and woven or knit in the family. Large quantities of cloths, flannel and blankets were manufactured of excellent fabric and enduring quality. Until after the period above referred to, little woolen cloth was made in manufactories established for the fabrication of woolen cloths. The commercial difficulties of that period interfered with the importation of wool and woolen goods, and led to the establishment of manufactories, and to an increased demand for domestic wool. About the years 1808 and 1810, Chancellor Livingston and Mr. Grove, of New York, Col. Humphreys, of Connecticut, Mr. Jarvis, of Vermont, and other public spirited citizens, imported large numbers of merino sheep from Spain and France, which were rapidly distributed, and greatly improved the character of the native breeds already in the country. Elkanah Watson, Esq., the father of the Berkshire Agricultural Society, deserves honorable mention also in this connection, for his efforts to introduce merino sheep into this State. About 1786 the French government devoted great attention to the culture of sheep. It imported from Spain the finest merino sheep that could be obtained, and in the space of ten years, by care and skill, raised the average product of wool from 6½ pounds to 9 pounds per head. The King of Prussia and the Elector of Saxony at the same time devoted earnest attention to sheep culture.

From the European flocks thus improved, the finest samples were selected for importation into this country. The climate and soil, especially of New England, were found well adapted to their constitutions and habits.

These importations, with those which have been subsequently added to them, constitute the basis of the wool-bearing sheep now in the country, and it is believed that no finer sheep can now be found in the world for the production of wool.

They belong to the smaller varieties of sheep, are prolific and hardy, and their thick heavy fleeces enable them to bear the variable and extreme weather of our climate. They are now spread over the Western and Southern portions of the country.

In 1850 there were nearly twenty-two millions of sheep in the country, yielding fifty-two and a half millions of pounds of wool. The number has greatly increased since 1850, and yet more than twenty millions of pounds of wool are annually imported.

Within a few years the long wooled varieties have been introduced, among which the Leicester and the Cotswold are the most prominent. Their wool is particularly suited to the fabrication of

worsted goods, and the demand for it is rapidly increasing.

They are much larger than the fine wooled varieties, are hardy and prolific, and make excellent mutton, not unfrequently weighing from 40 to 50 pounds per quarter.

The South Downs, a middle wooled breed, have also been introduced within a few years, and "for hardiness of constitution, beauty of form, and combined value of wool and mutton, rank with the best in Europe or America. Their mutton indeed has a reputation that commands for it a higher price than that of any other breed." In England their meat usually averages about twenty pounds per quarter. They are remarkably prolific, and easily reared. They prosper upon light pastures, and winter well with ordinary keeping. In their habits they are domestic, docile and quiet. They yield an average fleece of six to seven pounds. Probably this breed is better adapted to our rugged climate and hard soil than any other. But the particular breed which any one should select, must obviously depend upon circumstances, and the particular object he has in view in keeping them. The value of mutton, the price of wool, the convenience of the market and the value of the land must be taken into the account. The merinos and small breeds will thrive well on a broken rocky soil where scarcely any other stock will obtain a living.

The Leicesters and Cotswold require rich and fertile pastures. Lands in the immediate vicinity of a market are usually considered too valuable for the production of wool, at least it may be raised with more profit on cheaper lands, and more remote from market, while the production of mutton is more successfully carried on upon good soils with ready access to market.

The facilities of transportation are now so great, that wool may be brought to market, even from distant parts of the country, at the cost of a trifling addition to the value of the pound. Hence it is obvious that wool-growing may be carried on more profitably where lands are cheaper than they are in most parts of this county. The keeping of sheep then merely for the wool, will not probably be resorted to by the farmers of Middlesex.

But it is believed that by combining the advantages of wool-growing and mutton-raising, the keeping of sheep may be again rendered profitable, and that the keeping of the large breeds chiefly for their mutton will be found good husbandry.

The Hon. James S. Grennell, of Greenfield, in his report upon the stock exhibition in that place in 1859, remarks that "the larger breeds will produce more lambs, and by good keeping, both their quantity of wool is increased, and their tendency to breed, and their capacity to bring up their lambs. Such sheep will bring up an average of 15 lambs to 10 sheep. Large early lambs, well started, and allowed a pint of meal daily for the last two months, will readily find a market here in May and June at $5 per head. The care and trouble of such a flock bears no proportion to that attendant on a flock of fine wooled sheep. The larger breeds are not only more prolific, but hardier, and on account of their size, less liable to be worried by dogs, less liable to disease, not so apt to ramble, and bringing quicker returns, are more profitable to small farmers. The middle wools, when six years old are capable of being made into superb mutton from their aptitude to take on fat, and carcasses averaging 110 to 120 pounds, at 10 cents per pound, and a dollar for the pelt, making $12 or $13, show a handsome profit on the cost of raising and fattening. Of the various breeds, probably the South Downs are at present the greatest favorites."

The committee of the Plymouth County Agricultural Society, on sheep, say, "We would recommend for every farmer, however limited his number of acres, to keep a few sheep." A writer in the *Country Gentleman*, the last year, says, "I bought three ewes, two years ago this spring. Two of them had four ewe lambs, and last year, six of them had eight ewe lambs, making in all 15 ewes. I paid $14 for the first purchase, and the wool has about paid the keep, and I have just received $75 for the flock."

The above remarks are as applicable to the farmers in Middlesex as to those in any other county in the State.

But the keeping of sheep is profitable not only from the product of wool and mutton, but from the tendency which their keeping has to improve and enrich the land for all Agricultural purposes. There is no manure dropped by animals upon the land so fertilizing as that of sheep, and none so evenly distributed, or which suffers so little from waste. A distinguished German writer has calculated that the droppings of a thousand sheep during a single night, would manure an acre sufficiently for any crop. By using a portable fence and moving it from time to time, a farmer might manure a distant field with sheep, at less expense than that of carting and spreading manure. By a little pains, a large quantity of excellent manure may be made in the winter, from a flock of sheep. Another and a stronger reason remains why the farmers of Middlesex should return to sheep husbandry.

Many of our pasture lands exhibit a broken and rocky surface but little amenable to the plow. Other portions are sandy plains, and lie at a distance from the homes of their owners. Since the discontinuance of sheep culture, these pastures have been severely cropped by neat stock, and have now become nearly worthless. Many of them are covered with bushes and briars, or with mosses and worthless grasses. Experience shows that sheep walks instead of becoming exhausted, uniformly grow better and more productive, and that one of the most effectual means of destroying the bushes and mosses, and bringing back the white clover and sweet grasses to an exhausted pasture, is to turn upon it a flock of sheep. A gentleman writing from Plymouth county in 1859 remarks, "Some of the finest examples are afforded here of the effects of feeding sheep upon pastures that have become exhausted of nutritious grasses, and grown to bushes, briars, brakes and moss. I have seen pastures to-day that had become almost worthless, but now green and smiling as a lawn, with every inch among the rocks covered with the richest pasture grasses, and not a blackberry vine, wild rose bush, mullein or other useless plant in sight. The sward does not seem bound and compact, but loose and porous, and filled with the most healthy and vigorous roots. The sheep grazing upon these pastures afford ample evidence of the richness and luxuri-

ance of the grasses upon which they feed. These examples, with similar ones which I have observed in other places widely remote, would seem to shed light on the perplexing question so often asked, how shall I reclaim my old pasture? All over New England there are thousands of acres producing little or nothing, that might be renovated by the introduction of sheep upon them, while the profits of the sheep themselves I believe would be larger than from the same amount of money invested in cows. I have been told of an instance where a hundred acre pasture fed scantily only twelve sheep and six cows the first year, but on the second summer fed well twenty sheep and twelve cows, and continued to increase in fertility until more than double this number was fed upon it." R. S. Fay, Esq., the highly intelligent Secretary of the Massachusetts Agricultural Society, remarked in 1855, "The great diminution of sheep husbandry in this State, is much to be deplored. Sheep are the most active and profitable agents in the work of amelioration and farm improvement." There is abundant testimony from intelligent and observing agriculturists to the same effect.

The principal objections to sheep culture are the destruction occasioned by dogs and the expense of fencing. The former objection we trust is obviated by the wise provisions of the existing law. If they are not sufficient, the matter is in the hands of the farmers themselves. They can have such legislation as will meet the necessities of the case.

The second objection would have more weight, if we had only the long legged agile breed of sheep that roamed ever our hills sixty years ago. But breeds are now to be found, that are quiet and orderly, and may be easily restrained by a common fence, or at most by the addition of an extra rail, or a pole on the wall, and these are the breeds which both interest and convenience will induce our farmers to keep.

Our conclusions then are that the farmers of Middlesex should return to the keeping of small flocks of long wooled or middle wooled sheep, that they will find their products of wool and mutton a source of profit, and especially that it would be the means of ameliorating the condition of the exhausted pasture lands, and restoring them to their former fertility.

STRAW CUTTERS.—A correspondent of the *Rural New-Yorker* says: I am so great a believer in the economy and utility of cutting all our coarse fodder, not only for feeding, but for bedding in the yard and in the stable, that I have urged some of our geniuses to attach to the tail of a threshing machine a contrivance to cut every particle of straw into half, three-fourths, or inch pieces, as fast as it passes from the machine.

THE LIME BUSINESS.—The Rockland, Me., *Gazette*, gives the following statement of the condition of the lime business at that place:

We learn from Alden Ulmer, Esq., General Inspector, that the whole quantity of lime manufactured in this city, during the year just closed, was 899,460 casks, being an increase of about 50,000 casks over the manufacture of the previous year. Messrs. F. Cobb & Co. have manufactured about one-fourth of the whole quantity. Of the thirty-five patent kilns in the city, only five are now in operation, business having been closed for the season at all the others. A few of the old kilns are in operation, but there will be little or no demand for lime until the opening of spring business. Wood and casks command but very small prices.

For the New England Farmer.

MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

A MOVE IN THE RIGHT DIRECTION.

We have, already, in Massachusetts, a great many institutes of learning, and any one who has the means and time can perfect himself in almost any branch of science or art. Yet there is a great want, at present totally unsupplied. We need some kind of an Institute which shall be a central point of art and science, to which any one may bring his store, large or small, and from which all may be free to cull that which may be most useful to themselves; a grand exchange of knowledge and store house of art, to which the humblest and greatest shall contribute, and from which all may receive; a university and museum in which the student shall spend an hour, or a life time as his means and inclination shall determine.

At present there is a division between men of science and men of art; for the benefit of each, this should cease to exist. The theorist needs facts that his theories may approach the truth and be useful; these facts he cannot obtain for himself, but must receive from the artisan, the dealer in facts. In his turn the artisan must have rules to guide him to intelligent labor, and these can only be obtained from the generalization of facts, which is the work of the philosopher. In short, the minds of the theorist and artisan must be in communion.

Within a short time a scheme has been devised which, if matured, will supply all of these wants in the most ample and generous manner. I refer to the project of establishing an institute to be called the "*Massachusetts Institute of Technology.*" The committee having this enterprise in charge, have already issued circulars setting forth the object, and means which they hope to employ to bring it to a successful end. Pursuant to a call from this committee, a meeting was held in Boston on the 11th inst., at which Prof. W. B. RODGERS, Chairman, briefly stated the object of the meeting to be the inauguration of some formal and direct action by which an association may be formed, and a charter obtained. On motion of Mr. E. B. BIGELOW, a committee was appointed to procure an act of incorporation and endeavor to obtain a grant of land upon the Back Bay for the use of this institution. The committee consists of Prof. Rogers, James M. Beebe, E. S. Tobey, S. H. Gookin, E. B. Bigelow, M. D. Ross, J. D. Philbrick, T. D. Storer, J. D. Runkle, C. H. Dalton, J. B. Francis, J. C. Hoadley, M. P. Wilder, C. L. Flint, Thos. Rice, John Chase, J. P. Robinson, F. W. Lincoln, Jr., Thomas Aspinwall, J. A. Dupee, E. C. Cabot.

The meeting was eloquently addressed by several gentlemen. Prof. Pierce likened knowledge

to a pyramid; its apex cannot be raised without the enlargement of the base; the facts and experience of the artisan form the foundation; in proportion as that is enlarged and improved, the structure may be heightened.

Dr. GANNETT saw in this project a means of strengthening the bonds of union, and of raising man up to the contemplation of higher duties.

"In contemplation of created things,
By steps we may ascend to God."

Jan. 12. WILLIAM EDSON.

EXTRACTS AND REPLIES.

TIME FOR CUTTING TIMBER.

There has been considerable discussion of late, in the *Farmer*, about the time to cut timber. I have a fact to the point, which I will state. On the 12th of July, 1798, my father's barn was struck with lightning and consumed. The neighbors assisted, went to the woods and cut all the timber except the braces, hewed it and had another frame erected, 50 by 30 feet, in just two weeks. That timber is as bright now as new timber, with but very little powder-post. The large timber is pine, and the small hemlock.

I want to sow some wheat, the coming season; will you tell me, through the *Farmer*, which you think to be the best kind for this locality, and where it can be obtained? My interest in farming increases with my age, and inability to do the labor. THOMAS HASKELL.

New Gloucester, Jan., 1861.

REMARKS.—The opinion is gaining ground, that summer is the best time to cut trees for timber, as well as for pruning.

Java or *Coffee* wheat is raised in considerable quantities in this State. It is a spring wheat, and ought to be got in early, say by the 15th of April, and covered two or three inches deep, if the soil is dry; if a little wet and sticky, one inch is enough. It is plenty, and can be obtained at the agricultural stores.

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MANURES AND THEIR APPLICATION.

I was glad to hear this topic announced for discussion at the Agricultural Meeting of last week. It seemed like meeting an old acquaintance, whom I had not seen for a long time. I remembered to have suggested the topic, years ago, when a member of the voluntary Board of Agriculture.

Manures are to the farmer what emphasis is to the orator. You all remember the teachings of our school-books as to oratory—the first essential is said to be emphasis, and the second is emphasis—and the third is a due regard to emphasis. So says the distinguished farmer of Quincy. Manure is the best crop that can be grown on the farm—because, without this, no other crop can be grown—certainly not, after several years' cropping and exhausting the soil.

It is with manure, as with everything else on the farm, it should be kept within due limits. It is not good farming to expend five dollars for manures, when your crop grown will not be worth more than three. There are too many instances of this kind of farming. There is a due proportion to be observed in all these things. No larger quantity of manure should be applied to land, than can be *profitably* applied. Whatever is done more than this is waste. You will not find the man who digs his own mud from the swamp, and carts home his own night soil from the city, thus lavishly squandering it. But he will carefully compost the two, and so distribute the compost upon the land, as that the harvest of autumn will rightly balance the account. P.

Jan. 28, 1861.

P. S. Such would have been my ideas, if I could have been present at the discussion. I was misrepresented in your columns of Saturday last, by being made to say that our farmers grew 20 or 30 bushels of corn to the acre, when I said they realized a profit from the culture of corn of twenty or thirty dollars to the acre.

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TO DESTROY INSECTS ON FRUIT TREES.

Much has been said about destroying insects on fruit trees. I have tried many ways, but have found none so good as the following:

For a common-sized plum tree, fill six or eight vials about two-thirds full of water, well sweetened with loaf sugar, and hang them on different parts of the tree, about the time it is blossoming, and the insects will take that before the fruit. I have filled vials twice in one season, and found among them hundreds of insects such as I never saw or heard of before.

Another for Rose Bugs.—I have never seen a better way to rid trees of these pests than to smoke them. Take an iron vessel, put in coals, and set it under the tree on the head of a barrel, and then put in old scraps of leather; as this smoke is every way offensive to them, they will soon leave the tree; by giving it a good smoking they will not return. These fellows, as soon as they have shed their yellow wings, attack horses, being the small horsefly which is so troublesome through the summer. H. WHITE.

South Hadley, Mass., Jan. 28, 1861.

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THE TOWN OF LYME OUTDONE.

Much has been said and written of late, relative to the remarkable productiveness of Lyme, N. H., in potatoes, as having raised in one school district on five farms, the enormous amount of 9,890 bushels the past season! Well done, old Lyme! She has done nobly, and so far, of course, has borne off the palm. The following statement, I think, will leave Lyme a little in the shade. The town of Lisbon, same State and county, produced the past season, according to careful estimate, in round numbers 200,000 bushels of potatoes; one school district in said town produced in round numbers, 24,000 bushels; five farms in said district produced, in round numbers, also, 16,000 bushels! Now, Mr. Editor, I think by this time you will see that old Lisbon comes out a little ahead. *New Hampshire Journal of Agriculture* will please notice. P. YOUNG.

Lisbon, N. H., Jan., 1861.

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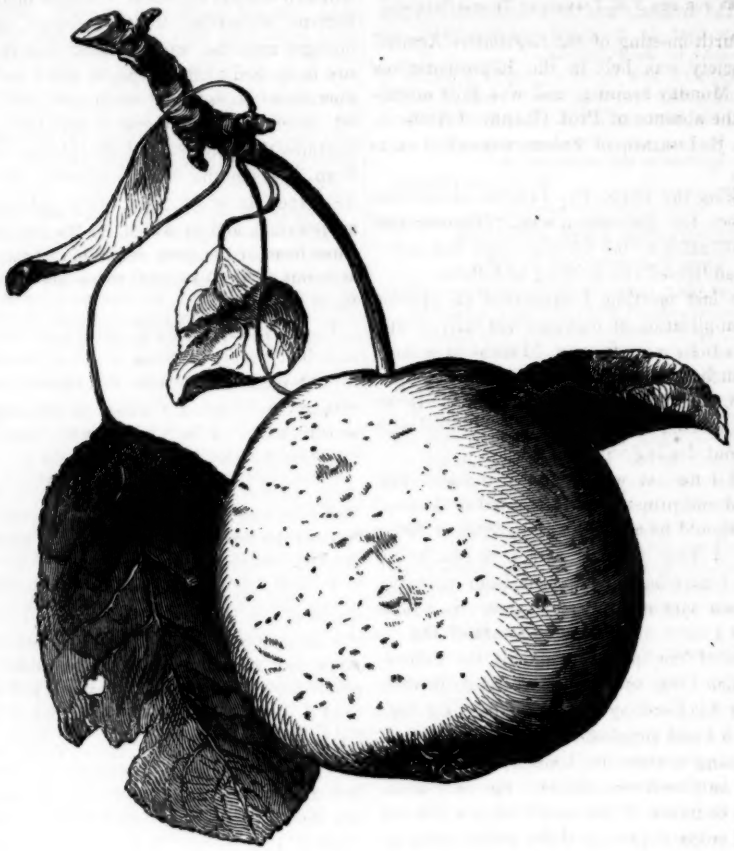
"M. W. H." must keep trying, as practice makes perfect. But select practical subjects, that you are acquainted with—then relate them as you would in a conversation with a friend.



MUSKINGUM PEAR.

This pear was introduced about twelve years ago from Ohio, where it originated. It is not among the best varieties, and considering the multitude of other kinds which are all desirable, this is a fruit which has not enough good qualities to give it a place in a small collection. The late S. W. Cole thought highly of the fruit on its first introduction here, and his opinion is still held in high estimation. He says of it, that he found it perfectly hardy, and a great grower, and considers it as well adapted to a more northern climate. The fruit is rather large; roundish to obovate; greenish-yellow, with many dark specks, and much russet, seldom a brownish blush; stem long, medial, in a narrow cavity; calyx slight, open, in a slight, or with no depression; flesh yellowish-white, very fine, tender, melting, juicy, of a sweet, high, aromatic flavor.

It ripens from the middle of August to the middle of September.

Remedy for the Peach Borer.—J. Van Buren, of Clarksville, Ga., gives the following as his remedy for the Peach Borer:

"Take about a half pint of common salt, sew it up in a small bag of strong cotton cloth; tie this in the fork of the tree, where let it remain until the salt is dissolved by the rains that fall, which will be in the course of two years, and the work is done.

"The brine that runs down the trunk of the trees will kill both worms and eggs as they are deposited; besides, it proves a benefit to the tree. Should there have accumulated a hardening of gum at the surface of the ground, as is sometimes the case, it should be removed so that the solution may reach the worms. It is equally as applicable for the apple tree borer and aphis at the roots."

Remarks.—This is so easily done, that we have no disposition to discourage any from trying it. Unless the bag encircles the whole tree, so as to cause the brine to flow down over every part of it, there would be spaces left exposed.

LEGISLATIVE AGRICULTURAL SOCIETY.

[Reported for the N. E. Farmer, by Thomas Bradley.]

The fourth meeting of the Legislative Agricultural Society was held in the Representatives' Hall, on Monday evening, and was fully attended. In the absence of Prof. Clark, of Amherst, Dr. Geo. B. Loring, of Salem, was called on to preside.

On taking the chair, Dr. Loring stated that the subject for discussion was, "*Manures, and their application to the various crops and soils.*" He then addressed the meeting as follows:

At the last meeting, I expressed an opinion that the application of manures was fully as important as their manufacture. I think it is more so, inasmuch as it bears more immediately upon our crops. And yet the two processes are so closely connected that it is difficult to deal with one, without dealing with the other.

I stated here last winter that I thought well composted and properly disintegrated or decayed manures should be applied to all crops, so far as possible. I have seen no reason to change my ground. I have been compelled from necessity to use green manures in some cases, since that time—but I have done it, fully aware of the extravagance of the operation, and of the difficulties to which I was subjecting my plants in their search for food among the fertilizing materials with which I had supplied them.

In speaking of manures, I mean farm-yard manure, the only universal manure, the only manure which contains all the constituents which our cultivated crops require, and for which every artificial fertilizer is merely a substitute—the only manure which comes within the reach of all our farmers. Now in comparing what is called green manure with that which is well rotted, it will be found that the latter contains, in much higher degree, those constituents which all plants require in their growth. In nitrogen it is far richer—containing 2.47 per cent to 1.90 per cent. in the former. The insoluble mineral matters are largely increased in well-rotted manures, such as silica, lime and potash. The soluble organic matter, containing nitrogen, is more than double that in green manure. It is proved to be richer in all soluble fertilizing constituents.

It has been distinctly shown that the acids which are required to combine with potash, soda and ammonia in the formation of soluble compounds are generated by the fermentation of manure—that ammonia is produced and fixed by the same process—that the whole mass becomes more easily available to plants—and that the constituents lost by fermentation, being carbonaceous and non-nitrogenized, are of but little intrinsic value in agriculture.

It seems, therefore, that green manure must go through certain chemical changes before it can become of service to the plants; and these changes must be brought about before the manure is applied to the crops, in order to hasten its operation. It is a well composted, well fermented, thoroughly disintegrated manure heap which contains the proper food for plants—a manure heap in which the various soluble salts are fully developed, in which ammonia is held fixed as far as possible, and in which, by the use of muck or some form of decayed vegetable mold, the constituents of manure and urine are properly diffused.

For this purpose there can be no doubt that a sufficient supply of muck, or loam if muck cannot be obtained, mixed with the manure, in such a manner as to avoid the heat of the sun and the washings of rain, will produce the most valuable fertilizer for the farmer. The most convenient place for this process is a barn-cellar, which can easily be constructed so as to avoid exposing the hay and animals, in the barn above, to any injury from the escape of noxious gases.

In applying manure, reference should be had to the soil with which it is to be mixed, and to the crop which is to be raised. On retentive, clayey lands, manure should undoubtedly be applied to the surface and harrowed in lightly—or used as a top-dressing to grass, for which such lands are peculiarly adapted. On such soils the manure may properly be applied for some time before planting. On sandy soils, however, manure should be applied shortly before the seed is planted, and covered more deeply. I suppose it is useless to expect such soils to be continued profitably in grass for a long time, simply by top-dressing.

The use of marine manures is necessarily confined to so small a portion of our commonwealth that it hardly demands discussing.

In some portions of our commonwealth, soil may be "progressed," or made available to growing crops, by means of artificial fertilizers, such as guano and the phosphates. This may be done profitably on farms used for supplying the markets with vegetables, in which case the stock of cattle kept is small. It may also be done as an aid to a short supply of farmyard manure, on farms which are incapable of furnishing sufficient materials to bring them up from a low condition. It is very doubtful, however, whether they can be advantageously employed, in most of the farming to which our State is adapted.

I think all manure should be applied in such a manner as not to deprive it of atmospheric influence. A mass of manure buried in the earth, or hermetically sealed up, would remain in an insoluble condition for an indefinite period of time.

Fermentation would be impossible. And every practical man must have noticed that in a large compost heap, there are many deeply buried portions, which are never exposed in forking, and which retain their original greenness, unchanged, while all the remainder of the heap is undergoing the fermenting processes, and developing all its fertilizing properties. Does not this furnish us some hint for the proper application of manures? And does it not teach us that in light lands it may be buried deeper, and must be in order to protect it, than it is in closer, heavier, clayey lands?

For experiments upon the application of manures to specific crops, I shall be happy to call upon those who have made them in careful farming. And having, as I think, suggested the general principles of preparation, I will call on gentlemen present to state their mode of application.

JOSIAH QUINCY, Jr., of Quincy, being called on, said that he presumed he prepared more manure than any other man in the State. He kept about 80 cows, and in the preparation of the manure followed the directions of Dr. Dana in his Muck Manual. Dr. Dana, in his thorough investigation of the subject in Lowell, had found that every cow produced 3½ cords of solid manure per annum, and the same amount of liquid, the latter being the most valuable. The speaker said that mixed with double the quantity of muck, cow manure made the best fertilizer known. He prepared on this plan 100 cords per month. He had a good muck bed on his farm, but from his mode of preparing this, it became as dry and fine as snuff, and in consequence, he had to make a double trench behind his cows so that the liquid from them would run freely into his barn cellar. His manure, he calculated, would pay the entire expense of carrying on his farm, and he reckoned it well worth $5 per cord.

He top-dressed 60 or 70 acres, and as his manure was removed from the cellar he made compost heaps of it; first a layer of muck, then one of manure, and so on until the heap was large enough, when it was covered with muck, and when the frost is out of it he has it turned over. He soiled all his cattle, feeding on rye, the grasses, and Indian corn, and roots. He said it was thought that you can never get more out of a cow than you put in, but he thought differently, and spoke at length of the gain in feeding cows well, as by that means every product is increased in value. Speaking of guano, Mr. Quincy said that the reason of its great value was because the bird fed on fish, the richest food, and all it eat goes to soil.

In his opinion, there was a trouble with us in the want of a proper proportion between the value of our farms and the quantity of active capital on them; as, if a farm was worth $500, a man should have $4500 active capital to keep on it. He said the old Roman maxim, "Admire large farms, but cultivate small ones," was worthy of more attention. He considered his few acres of muck land worth three times as much as any other of his farm. He closed by saying that a principal difficulty about foreign manures was their impurity and their expense, and he alluded to the method of turning in green crops as fertilizers, as practiced in New York.

In answer to a question, he stated that his barn cellar was water-tight, and that in summer he pumped out the liquid, and manured from the cart, and in winter he threw in muck to the cellar, and absorbed the liquid.

Mr. WHITE, of Petersham, thought the farmers in his section could not afford to go to the expense the last speaker did, as they had not muck or soil to draw to the barn, and he wanted to know why the manure might not be mixed with the soil in the field. He stated that Dr. Fisher, of Fitchburg, saved all the manure on the farm; but he says he cannot afford to cart muck to increase the manure. He said he had been trying an experiment on corn, as desired by the Board of Agriculture. He had used 12 cords of manure to 4-5 of an acre of land, and the result had been perfectly satisfactory, but he found that the portion plowed in the deepest returned the poorest crop. He said they applied top-dressing on their mowing fields, and they considered soiling their cows was not so profitable as grazing them, although they did not get more than half the manure.

Mr. TYLER, of Uxbridge, said he had a tight barn cellar, and he covered the floor 6 inches deep with loam, using half this to compost with. He kept from 6 to 8 cows and a horse in the barn, and made from 10 to 16 cords of manure a year. He applied this on 2 to 3 acres of land in corn, harrowing in 6 inches, and his average crop was 60 bushels of shelled corn (in January) to the acre, and from observation of his neighbors' crops he was satisfied his plan of manuring was the best. He fed his cattle on cob and corn meal and shorts; he had tried cotton seed meal, but he found corn meal equally as good. His ground was a deep, sandy loam. In relation to wheat, he said that by preparing the ground late in the fall, by plowing and harrowing level, he had found he could gain two weeks in the spring.

AMASA WALKER, of North Brookfield, complimented Mr. Quincy for his efforts in bringing the system to such perfection, but said that, as the circumstances of farmers varied so much, but few could follow out the plan he adopts. He said he should speak of artificial fertilizers, and he hoped that before the Legislature adjourned a law would be passed for the inspection of foreign manures,

similar to that in force in Maryland. He said immense quantities of guano were imported into Baltimore, and it was used in very large quantities on the plantations, with the best results. Here there was no confidence as to the genuineness of the article. He had experimented with guano successfully for several years, and he had also found phosphate of lime very good, and in his opinion the farmers in our State had mistaken their true interests in not using more of these fertilizers. He said that the land farmed by Mr. Quincy was comparatively level, while the farms in Worcester county were so hilly that it cost from 40 to 50 cents per load of half a cord to get the manure on to the ground, and thus the artificial manures were advantageous.

He considered 200 lbs. of guano equal to six loads of our common manure, the latter costing $15 when applied to the land, while the former would only cost $8, thus effecting a saving of nearly 50 per cent. in producing the same crops. Last year, he had raised on a very poor pasture, that had never been manured to any extent, 50 bushels of very heavy oats to the acre, by the application of 200 lbs. of guano, and other experiments, had resulted in like manner. Of course the first object should be to get all the common manure on the farm, but as this would not be enough for ordinary purposes, he would recommend guano, and he proposed to increase the application of it on his farm, next year, threefold.

Simon Brown, of Concord, said he believed in the use of guano, but he thought farmers should make it themselves. It is excellent as an auxiliary, but should not be depended upon as a principal. If he could have his way, he would keep his cattle as compact as possible for their comfort, and have a barn cellar with a bottom of clay, four or five inches deep, well pounded down; then he would put meadow mud, sand or sawdust in one corner, and every morning would cover the droppings from the barn with this mud or sand, letting it all remain through the winter until it was wanted for use in the spring, when he would have a pasty compound of the richest fertilizer. If he used it on sward land, he would plow with a double plow, and cart out in the green state in the spring, and plow it in. By applying to the surface in September, and turning it in by plowing, you have in the spring a soil rich enough for anything. On stubble, he said he had covered the ground with manure in the fall, and in the spring plowed again, and with this treatment he had planted parsnips one year, and got over 1000 bushels to the acre, never having seen the bottom of a single one, the man who dug them remarking that it was "like digging post-holes." He had also raised excellent crops of carrots, mangolds, &c. He thought Mr. Walker was mistaken about guano, and if we believe in our hearts what he advocates, it will be a most unfortunate thing for our State. In his opinion, the speaker said, Massachusetts is from half a million to a million dollars worse off to-day from the use of guano. He was recently in company with several old practical farmers, who had used guano, more or less, for from 5 to 10 years, and they condemned its use as a principal agent. Guano, said he, where ammonia predominates, is a stimulant and not a fertilizer but a fertilizer when abounding in phosphates. He had used American guano with fine results, as it starts corn in the hill wonderfully quick; as an auxiliary, guano may be good, as a main manure it is not so.

The speaker said that if a portion of night soil was collected and mixed with meadow mud and then sprinkled with plaster of Paris, and in spring or summer turned over, an excellent compost would be made, and if it was prepared too late for application in the fall, barrel it up. If the manure is scattered broadcast on the land in spring and plowed in, and the compost applied to the hills of corn, it will force it as well as guano. The droppings from hen roosts, mixed with mud or sand, had also been used in the same way by many farmers in his county. He also recommended taking a leaky molasses hogshead and sprinkling in it a bushel of plaster of Paris with meadow muck, and then thoroughly saturating this with urine until the smell of ammonia was gone, when an excellent substitute for guano was ready. The contents of the hogshead might then be barreled up for use, and thus a farmer be all the time making this compost. By applying this in the hill, corn will come up quicker, and you can gain two or three weeks. He did not wonder that $65 per ton for Peruvian guano was discouraging to farmers, and he thought the use of it had been a curse to Massachusetts.

Mr. Wetherell, of Boston, said he thought it mattered not whether the vegetable matter is decomposed in the cow or in the ground, and to show that, he cited the opinion of Liebig, who stated that a crop of clover plowed into the ground would contain more fertilizing properties than if fed to cattle and applied in the form of manure. He spoke of an experiment on a field of turnips, feeding one-third to sheep in the field, one-third to them on the ground on which they grew, and plowing the remaining third in, and the result had been that the farmer had raised the next year 46 bushels of oats on the first third, 70 bushels on the second and 80 bushels on the last. He spoke of another farmer who had used 300 lbs. of Peruvian guano to an acre of sandy plain where nothing would grow, and he had harvested 50 bushels of corn to the acre from it. He asserted

that guano is a fertilizer, and a highly concentrated manure. He did not know as to the economy of using it, but he knew that many farmers consider it a profitable manure.

Mr. BROWN thought the last speaker had shown the opinion he expressed, that guano was not a fertilizer, was correct. No man who had used guano solely for ten years would say it had improved his land. He admitted that it stimulated the fertilizing qualities of the soil, and in reference to the use of it in Maryland, said he had a letter in his possession from persons there who said, if the practice of manuring with guano was continued, the time would come when they could not raise five bushels of wheat to the acre.

Mr. FISK, of Shelburn, said he had listened to what had been said on the subject with much interest, but he thought those who had spoken were princely farmers, and their practice would not answer for the farmers in his part of the State, as they were, he regretted to say, poor; and, further, that there were few farms that were not mortgaged, and thus had the life-blood taken from them. Our people, said he, are not cow men exclusively, and much of our land cannot be plowed and they cannot soil their cattle, as they cannot get their sheep, young cattle and colts into the barns for the purpose, although some of the farmers are now soiling their cows. He condemned the use of guano and the phosphates, stating that the Franklin county farmers relied on their cattle for good strong manures which would increase their crops years in succession, and not exhaust their fertilizing qualities in a single crop. We have all, said he, barn cellars, and in these we keep hogs on the starvation principle, and make them work. We don't know about the chemical properties of our manure, but we judge by the appearance and smell. He agreed with Mr. Brown in relation to the application of manures, but he did not believe that the corn crop was before the hay crop in Western Massachusetts. He spoke of Prof. Mapes having induced his neighbors to invest money in superphosphate of lime, and said they had all thrown away their money. They had come to the conclusion to put their money into good hard corn, and that the manure, from a good fat ox is worth all the foreign manures that come here. He spoke of sheep manure and said that they put it in the cold, wet earth, and although it did not yield a first-rate crop in one year, yet the second year they got great crops. Speaking of wheat, he said that the farmers in his county got the best and largest crops in the country, and 40 bushels per acre was a common yield. He closed by suggesting that speakers at future meetings be limited to ten minutes.

In accordance with this suggestion it was voted to so limit speakers, except the Chairman of the evening. It was announced that the subject for discussion at the next meeting would be, "*Flax—to be cultivated at the North as a substitute for Cotton,*" and that Mr. S. M. Allen would preside. On this occasion, specimens of the flax cotton, and articles made from it will be exhibited.

ATMOSPHERIC FERTILIZERS.—M. Barral, of Paris, has lately made the discovery that rain-water contains minute quantities of phosphorus. He believes that it exists in the atmosphere in the form of phosphorated hydrogen, which escapes from decaying animal substances. As phosphorus is necessary to the fertility of soils, we have in this discovery a key which unlocks the secret of "summer fallowed" lands becoming fertile. The ancient Hebrews were accustomed to allow the land to rest without cultivation every few years. This was, no doubt, for the purpose of restoring it from comparative barrenness by cropping, to renewed fertility. It is now well known that ammonia also exists in rain-water, and this is held to be the chief of fertilizing agents. Any worn out lands may be restored to fertility by allowing them seasons for repose, in the same manner that Moses provided for the perpetual fertility of the land of Israel.—*Scientific American.*

HOW CARROTS AFFECT HORSES.—The carrot is the most esteemed of all roots for its feeding qualities. When analyzed, it gives but little more solid matter than any other root, 85 per cent. being water; but its influence in the stomach upon the other articles of food is most favorable, conducing to the most perfect digestion and assimilation. This result, long known to practical men, is explained by chemists as resulting from the presence of a substance called pectine, which operates to coagulate or gelatinize vegetable solutions, and favors the digestion in all cattle. Horses are especially benefited by the use of carrots. They should be fed with them frequently with their other food.—*Mark-Lane Express.*

WATER ON STOCK FARMS.—Mr. Strawn, the great Illinois farmer, gives the following method in the *Farmer's Advocate* for keeping water on a stock farm. Dig a basin five or ten rods square and ten feet deep, upon a high knoll. Feed corn in the basin to your hogs and cattle until it is well puddled by the trampling of their feet, which will make it almost water-tight. He says the rains of a single winter sufficed to accommodate several hundred head of cattle, and that it had been dry but once in twelve years.

ENGLISH HEDGES.—Nothing can exceed the beauty and strength of a well trained hedge, but the most of them are in bad order, and a nuisance to the country. Sheep will eat through the best of them. Iron fences are fast coming into use and are much better.—*Cor. of Ohio Cultivator.*

SIDE SHOWS.—After a full discussion, the Ohio State Board of Agriculture adopted the following resolution: "That we recommend to our County Societies to exclude from their grounds all obscene and immoral side shows." Sage advice.

For the New England Farmer.

VIRGIL ON AGRICULTURE.

NUMBER ONE.

Among the readers of the *Farmer* there are, probably, but few who have not heard of VIRGIL—the prince of Latin poets. He lived and flourished nearly two thousand years before us, or just previous to the Christian era. His writings are, therefore, interesting and valuable, as showing something of the state of the world, and the public mind, in those ancient times.

His inimitable Georgics, or that portion of his writings which relate to farming matters, were composed at the earnest request of Augustus Cæsar—Emperor of the Romans. They were written to inspire a love for the farmer's life in the hearts of his countrymen. Long continued civil wars had depopulated and laid waste the lands usually appropriated to agriculture; the peasants had become soldiers, and their once beautiful farms and vineyards were changed to scenes of desolation; famine and insurrection were the inevitable consequences of this dismal state of affairs.

Augustus resolved to awaken an interest in the all-important, but now neglected art, of the husbandman; and began by prevailing upon VIRGIL to employ his genius in recommending it to the people by all the insinuating charms of poetry. Seven of the most vigorous years of his life were spent in the composition of his four Georgics—or agricultural poems—and the result of his labors fully answered the expectations of Augustus. None, but a person of transcendent genius, matured judgment and imagination, could have written so charmingly upon the most common, and too often despised subjects.

VIRGIL himself was the owner of a farm in Mantua, a city of Lombardy. According to his writings, he believed in all the gods of the ancient Romans—for they were many—and was somewhat tainted with the vague and foolish superstitions which, in his day, shrouded the minds of all, both high and low. But the intelligent reader can easily distinguish between reasonableness and absurdity.

He certainly possessed a remarkable mind and a benevolent heart, or he could not have arisen so far above the surrounding ignorance and moral gloom as to become, in some respects, a beacon-light, not only to his own generation, but to succeeding ages far down in the vista of time.

The Georgics are but a small part of his writings, but more useful, perhaps, than those which are more elaborate, and prolix. A few extracts only can be given—and these, perhaps, not the best that could have been selected. Every reader of the *Farmer* would be charmed, amused, and, I think, instructed, by perusing the whole of his works, and especially the portion now under consideration.

His first Georgic commences by giving the general design of each of the four poems.

What makes a plenteous harvest, when to turn
The fruitful soil, and when to sow the corn;
The care of sheep, of oxen, and of kine;
And how to raise on elms the teeming vine;
The birth and genius of the frugal bee,
I sing, Mæcenas, and I sing to thee.

* * * * *

While yet the spring is young, while earth unbinds
Her frozen bosom to the western winds;
While mountain snows dissolve against the sun,
And streams, yet new, from precipices run;
Even in this early dawning of the year,
Produce the plow, and yoke the sturdy steer,
And goad him till he groans beneath his toil,
Till the bright share is buried in the soil.
But ere we stir the yet unbroken ground,
The various course of seasons must be found;
The weather, and the setting of the winds,
The culture suiting to the sev'ral kinds
Of seeds and plants, and what will thrive and rise,
And what the genius of the soil denies.

* * * * *

Nor is the profit small the peasant makes
Who smooths with harrows or who pounds with rakes
The crumbling clods: nor Ceres from on high
Regards his labors with a grudging eye;
Nor his, who plows across the furrowed grounds,
And on the back of earth inflicts new wounds;
For he with frequent exercise, commands
Th' unwilling soil, and tames the stubborn lands.

* * * * *

The sire of gods and men, with hard decrees
Forbids our plenty to be bought with ease,
And wills that mortal men, inured to toil,
Should exercise, with pains, the grudging soil;
Himself invented first the shining share,
And whetted human industry by care;
Himself did handicrafts and arts ordain,
Nor suffer'd sloth to rust his active reign.

* * * * *

First Ceres taught, the ground with grain to sow,
And armed with iron shares the crooked plow,
When now Dodonian oaks no more supplied,
Their mast, and trees their forest-fruit denied.
Soon was his labor doubled to the swain,
And blasting mildews blackened all his grain:
Though thistles choked the fields, and killed the corn,
And an unthrifty crop of weeds was born:
Then burs and brambles, an unbidden crew
Of graceless guests, th' unhappy field subdue,
And oats unblest, and darnel domineers,
And shoots its head above the shining ears;
So that, unless the land with daily care
Is exercised, and, with an iron war
Of rakes and harrows, the proud foes expelled,
And birds with clamors frighted from the field—
Unless the boughs are lopped that shade the plain,
And heaven invoked with vows for fruitful rain—
On others' crops you may with envy look,
And shake for food the long-abandon'd oak.

* * * * *

Yet is not the success for years assured,
Though chosen is the seed, and fully cured,
Unless the peasant, with his annual pain,
Renews his choice, and culls the largest grain.

* * * * *

But sweet vicissitudes of rest and toil
Make easy labor, and renew the soil.
Yet sprinkle sordid ashes all around,
And load with fatt'ning dung thy fallow ground.
Thus change of seeds for meagre soils is best;
And earth manur'd, not idle, though at rest.

* * * * *

But, when cold weather and continued rain
The lab'ring husband in his house restrain,
Let him forecast his work with timely care,
Which else is huddled, when the skies are fair:
Then let him mark the sheep, or whet the shining share,
Or hollow trees for boats, or number o'er
His sacks, or measure his increasing store,
Or sharpen stakes, or head the forks, or twine
The sallow twigs to tie the straggling vine;
Or wicker baskets weave, or air the corn,
Or grinded grain betwixt two marbles turn.

* * * * *

In genial winter, swains enjoy their store;
Forget their hardships, and recruit for more.
The farmer to full bowls invites his friends,
And, what he got with pains, with pleasure spends.

The second Georgic describes the different methods of propagating and raising all kinds of trees and vines, and points out the soils best adapted to each variety.

Thus far of tillage, and of heav'nly signs;
Now sing, my Muse, the growth of gen'rous vines,
The shady groves, the woodland progeny,
And the slow product of Minerva's tree.

* * * * *

'Tis usual now an inmate graft to see
With insolence invade a foreign tree:
Thus pears and quinces from the crab-tree come;
And thus the ruddy cornel bears the plum.

Then let the learned gard'ner mark with care
The kinds of stocks, and what those kinds will bear;
Explore the nature of each sev'ral tree,
And, known, improve with artful industry:
And let no spot of idle earth be found;
But cultivate the genius of the ground:
For open Ismarus will Bacchus please;
Taburnus loves the shade of olive trees.

* * * * *

Much labor is required in trees, to tame
Their wild disorder, and in ranks reclaim.
Well must the ground be digged and better dressed,
New soil to make, and meliorate the rest.

* * * * *

But various are the ways to change the state
Of plants, to bud, to graft, t' inoculate.
For, where the tender rinds of trees disclose
Their shooting germs, a swelling knot there grows:
Just in that space a narrow slit we make,
Then other buds from bearing trees we take;
Inserted thus, the wounded rind we close,
In whose moist womb th' admitted infant grows.
But, when the smoother bole from knots is free,
We make a deep incision in the tree,
And in the solid wood the slip inclose;
The batt'ning bastard shoots again and grows;
And in short space the laden boughs arise,
With happy fruit advancing to the skies.
The mother plant admires the leaves unknown
Of alien trees, and apples not her own.

* * * * *

I teach the next the diff'ring soils to know,
The light for vines, the heavier for the plow.
Choose first a place for such a purpose fit;
Then dig the solid earth, and sink a pit;
Next fill the hole with its own earth again,
And trample with thy feet, and tread it in:
Then, if it rise not to the former height
Of superfice, conclude that soil is light,
A proper ground for pasturage and vines.
But if the sullen earth, so press'd repines
Within its native mansion to retire,
And stays without, a heap of heavy mire,
'Tis good for arable, a glebe that asks
Tough teams of oxen, and laborious tasks.

* * * * *

The fatter earth by handling we may find,
With ease distinguished from the meagre kind;
Poor soil will crumble into dust; the rich
Will to the fingers cleave like clammy pitch.

* * * * *

Fat, crumbling earth is fitter for the plow,
Putrid and loose above, and black below;
For plowing is an imitative toil
Resembling nature in an easy soil.
No land for seed like this; no fields afford
So large an income to the village lord;
No toiling teams from harvest-labor come
So late at night, so heavy-laden home.

* * * * *

Happy the man, who, studying Nature's laws,
Through known effects can trace the secret cause—
His mind possessing in a quiet state,
Fearless of Fortune, and resign'd to Fate!
And happy, too, is he who decks the bow'rs
Of Silvans, and adores the rural pow'rs—
Whose mind, unmov'd, the bribes of courts can see,
Their glitt'ring baits and purple slavery,—
Nor hopes the people's praise, nor fears their frown,
Nor when contending kindred tear the crown,
Will set up one, or pull another down.
Without concern he hears, but hears from far,
Of tumults, and descents, and distant war;
Nor with a superstitious fear is awed,
For what befalls at home, or what abroad.
Nor envies he the rich their happy store,
Nor his own peace disturbs with pity for the poor.
He feeds on fruits, which, of their own accord,
The willing ground and laden trees afford.

* * * * *

The peasant, innocent of all these ills,
With crooked plows the fertile fallows tills,
And the round year with daily labor fills;
And hence the country markets are supplied:
Enough remains for household charge beside,
His wife and tender children to sustain,
And gratefully to feed his dumb, deserving train.
Nor cease his labors till the yellow field
A full return of bearded harvest yield—
A crop so plenteous, as the land to load,
O'ercome the crowded barns, and lodge or ricks abroad.

But this article, for one of the kind, is already too long, and yet, only a few fragments of the first two Georgics have been given. A review of the two remaining poems, upon domestic animals and honey bees, must be postponed until another time—providing the editor thinks it advisable to continue the subject.

Enough has already been quoted to show that the ancients—or one of them at least—and a poet too, understood the farmer's art to a degree of perfection almost equal to the boasted knowledge and wisdom of the present century. And yet the world progresses—in some things slowly, in others rapidly. What the ancients most needed in husbandry was suitable farming implements; in this matter we are greatly their superiors.

S. L. WHITE.

So. Groton, January, 1861.

For the New England Farmer.

CATTLE MARKET REPORTS.

MR. EDITOR:—You "invite criticism on your cattle reports" for last week, at the Cambridge and Brighton markets. By inviting criticism, I understand you to ask the farmers to express their opinions for or against a more extended and accurate report of the weekly markets than has heretofore been given in the Boston agricultural papers.

You will remember publishing an article more than a year since, that I wrote for the *Farmer*, complaining of the meagre and comparatively worthless reports contained in any New England agricultural paper, when contrasted with the accurate and luminous reports of the New York cattle markets, prepared by the prince of reporters, Solon Robinson, of the *New York Tribune*. That article was published in the *Tribune* as an endorsement of the sentiments it contained. I then referred to the too limited reports hitherto made of our markets, giving no accurate description of the different grades of cattle, and their value, leaving the farmer in ignorance of their value in the stall; so that the drover and butcher might easily take the advantage of him in purchasing. Your report of the market, last week, is a good beginning in a very important and much needed reform.

Your reporter holds a ready and pretty skilful pen, and only needs more practice to enable him to give us accurate reports. The *Tribune* report makes some two or three columns of fine type in that paper, minutely describing 5000 head of cattle, from what State they came, by whom fattened, and by whom taken to market, the expense of freight, to whom sold, with the price per pound, and the per cent. of shrinkage of dead from live weight, &c., enabling any fatter a thousand miles off to estimate the exact value of his bullocks in the stall, and worth to every cattle fatter in the country more than five times the yearly price of the *Tribune*. Yes, go on as you have began, and give us such weekly information of the exact state of the market, as the great interests of our New England stock demands; and depend upon it the publishers and readers of the *N. E. Farmer* will receive a mutual benefit. Brighton market controls to a great extent the price of stock all over New England. The farmers of Princeton fatten, principally in the summer, from 400 to 600 or 700 head of cattle, and though but a small part of them go to Brighton, most of them

being slaughtered at home or sent to Worcester and the adjacent towns, still, the Brighton market controls the price, and we look to the weekly sales there, anxiously, to enable us to fix the honest value of our cattle at home. Yes, we bid you good speed in giving us more extended and valuable accounts of the markets hereafter. I am glad the *Farmer* takes the lead in this reform.

Princeton, Jan. 25, 1861. J. T. EVERETT.

REMARKS.—It is our desire to give the best report of the cattle market in our power, and we shall spare no proper efforts to do so. Friend EVERETT will please accept our thanks for his appreciation of them.

AFRICAN EXPLORATION---COTTON.

Mr. Petherick, British Consul in the Soudan, who is about to proceed to Africa to explore the source of the Nile, recently delivered an address to the merchants of Liverpool. Consul Petherick has been fifteen years a resident of the interior of Africa; and, under the auspices of the Royal Geographical Society, he is about to commence an expedition from his residence at Khartum in the hope of meeting and assisting Captain Speke, who is starting from Lake Nayanza to explore the yet unknown district lying between there and Kondokoro, and where he hopes to be able to trace the source of the Nile. Mr. Petherick believes that the equatorial region of Africa is drained by a large tributary of the Congo, or some one or other of the large streams that discharge themselves into the South Atlantic Ocean, and the result of establishing the existence of such a stream, he thus comments upon:

"It is to this large and navigable river, in the most central point of Africa, that I look forward to establishing the first fruits of geographical discovery in connection with British commerce. If a channel, such as described, should be proved to lead from the seaboard into the very heart of Central Africa, the whole produce of the country, in addition to ivory, such as oils, seeds, hides, indigo, cotton, gums, India rubber, may be obtained in exchange for our manufacturers. In addition to India rubber, I have also discovered cochineal; and with regard to cotton, they would observe that Dr. Livingstone stated that in his quarter of Africa, he found indigenous cotton growing in the country, without cultivation on the part of the people; they found that the missionaries in Abeokuta, going up the valley of the Niger, observed the same thing, and Mr. Petherick, going up the White Nile from the northward, found the people there growing and manufacturing cotton; and on the gold coast, very large communities of people were engaged in the production of this article. In the quarter which he had visited, he ventured to say that cotton was not only abundant in quantity, but excellent in quality. He found in the country immediately in the interior of Sherboro, that cotton was the great staple article of production; the people there were in the habit of producing and manufacturing it, and the clothes which they manufactured were of precisely the same quality as those which we found, from the accounts of missionaries, up the Niger, and highly valued by the people."

For the New England Farmer.

EXPERIMENTS IN TOP-DRESSING.

MESSRS. EDITORS:—There is no subject in agriculture deserving of more inquiry, and of greater importance to the farming interests, than the knowledge of the best kind of fertilizers to be used for top-dressing grass lands. As yet but little is actually known by which to arrive at any practical results, for obtaining the largest crop of grass. I have read carefully the remarks and discussions had at the several meetings in the State House on the subject, and as yet am far from the information desired—theories and crude speculations will not enlighten me in the case, and it is only actual experiments and comparison of the several kinds of fertilizers in general use, that can afford the valuable information so much wanted by every farmer. When these experiments are made and clearly explained, they will open to us a knowledge of vast importance. For what crop is there of greater value than the hay crop?—With the present implements now used in husbandry, none can be more easily produced, for the means are within the reach of every one, either by owning or hiring the best mowers, tedders, and other machines necessary for the purpose.

The desire of knowing something more definite and practical on this interesting subject, induced me the last season to institute, in a small way, a series of experiments, in the hope that I might derive some benefit myself and be useful to others. Accordingly, in April last I selected a field best adapted to the purpose, very uniform in the sward, free from shade and other objections—and staked out five several lots each, measuring 250 feet long by 45 feet wide, and top-dressed them with the various fertilizers, as follows:

No. 1.—2 cords of manure well rotted and mixed with 1½ horse carts of soil.
No. 2.—120 bushels leached wood ashes.
No. 3.—2 cords green cow manure, the droppings of only a few days before.
No. 4.—80 bushels unleached or dry wood ashes.
No. 5.—255 lbs. Peruvian Guano, mixed with 1½ horse-carts of brook-mud.

The cost or value of the top-dressing, for each lot, was as near ten dollars as possible. The grass was very carefully cut, and made the first crop in July, the second in September, and accurately weighed, yielding as follows:

	First Crop.	*Second Crop.*	*Aggregate.*	
No. 1,	790 lbs.....	380 lbs.....	1170 lbs...	Compost.
No. 2,	680 "	440 "	1120 " ...	Leached ashes.
No. 3,	960 "	640 "	1600 " ...	Green cow manure.
No. 4,	900 "	550 "	1450 " ...	Dry ashes.
No. 5,	1300 "	370 "	1670 " ...	Peruvian guano.
	4630 lbs.	2380 lbs.	7010 lbs.	

You are aware the early spring was very dry, and quite a drought prevailed during the months of April and May. This, no doubt, retarded vegetation, and checked, particularly, the fertilizing qualities of the ashes, as they laid in the sward for a length of time, as dry as when first spread. The copious rains, afterwards, produced a wonderful change in thickening up of the grass. The guano dressing, you will observe, produced much the largest quantity on the first crop, although very little more than the green cow manure with the aggregate of both crops.

The second mowing of the guano lot disappointed me, and its short comings on the second crop, almost conclusively proved that it had lost

much of its fertilizing properties in the production of the first crop of grass. It would not surprise me on the return of the next season, to find the green cow manure lot superior and more reliable than either of the other fertilizers, as a general dressing. Should the return of the next year's mowing result as I anticipate, I may possibly trespass upon your valuable paper at a future day. RICHARD S. ROGERS.

Oak Hill, South Danvers, Jan. 25, 1861.

REMARKS.—We hope Mr. ROGERS will continue his valuable experiments and favor us with the results. They are just what is needed. By continuing them two or three years on the same field, they will go far to settle the question of comparative value between the different fertilizers he has used. We shall be glad to hear from Mr. R. on other topics.

For the New England Farmer.

JETHRO TULL ON STIRRING THE SOIL.

It is now more than a century since Jethro Tull undertook to show to the agricultural world, that manure was unnecessary in practical husbandry, and that the great desideratum was *the frequent stirring of the soil.* But while he failed in this, he proved that good tillage was very important, though it could not supply the place of manure.

Mr. Tull was an Englishman, and was educated for the law; but his health being poor, he travelled on the continent. After returning, he settled on a small, but poor farm, and while here, his industry and mental activity made him more famous than he probably would have been in his original profession. He experimented and wrote books upon agriculture. Having seen some peasants on the continent frequently scarifying the soil around their grape vines, while using little or no manure, he assumed the hypothesis that good tillage was the only thing needful. A very unreasonable conclusion, indeed, but not more so than many other professional men have had the weakness to adopt at their sudden initiation into agriculture. He not only spoke and wrote against the economy of the use of manure, but he ruthlessly assailed as nauseous all garden vegetables raised in it. This whim, however, has had its counterpart in more modern times; for I well recollect that a member of an erratic Physiological Society in Boston, some dozen years since, placed a basket of potatoes, covered with a wire gauze, on the sidewalk opposite his place of business, labelled, "*Physiological Potatoes, raised without manure!*" So it is that men "play their part in fortune's pageant," and in their persistent pride of opinion, frequently cultivate a moon-lit philosophy, which suddenly disappears in the stronger rays of day.

Mr. Tull used to say that "Plants are earth, and they can't have too much of it." To well comminuted soil everything else was secondary. The truism, that

"All forms that perish other forms supply,"

was so disregarded that he did not see that plants and animal substances, in their decomposition, furnish the only materials for new organizations. With a certain degree of success, however, he pursued his starving system of tillage for a few years, till at last all the available elements of his soil being exhausted by repeated pulverizations, *he was obliged to resort to manure!* But so stubbonly wedded was he to his theory, and so unwilling to admit the nutritive effect of manure, that he then affirmed that the only benefit from the fertilizers was the mechanical assistance which they rendered to the soil in its development of vegetable pabulum! In other words, that the manure simply assisted in the further divisions of the earth, without adding anything of value. Mr. Tull died in 1740.

Whether the pulverizing system, if true, would be economical, would depend upon the amount of tillage it demanded. But as it is of only secondary importance, it is not worth while to calculate it. Undoubtedly, the frequent stirring of the soil makes it a more ready receptacle of the gases, rains and dews, and these afford positive nutriment. Besides this, the more a soil is pulverized, the more readily it parts with the important elements it may contain—whether organic or inorganic—the more it will nourish plants, but the sooner, of course, it will become exhausted of what it possesses. And to prevent this barrenness, manure is the obvious remedy.

West Medford, Jan., 1861. D. W. L.

For the New England Farmer.

WINTERING BEES.

In the *Farmer* of Jan. 12th, is an article on wintering bees, that indicates that the writer has had considerable experience and observation.—The bee-keeper who winters his bees in the open air, would do well to heed his advice. There is one point, however, in which he is mistaken, that I would correct. He says that "Quinby and Langstroth state that they have wintered swarms on four, five and six pounds of honey." In this he must be mistaken, as far as I am concerned. I really would not dare to advance any such idea. In fact I do not believe that an ordinary sized colony could be wintered on that amount. I have weighed a great many hives, and the least honey that a colony has consumed in six months, from Oct. to April was fourteen pounds. I have had others, at the same time, that consumed 17, 18 and one even 21 pounds. They will average about 18. If the spring is unfavorable, a good, large colony will consume, from the first of April till they get a full supply from clover, as much more, provided it is on hand—probably used in rearing brood; with but little honey, less brood is reared.

I am satisfied that bees consume less honey when wintered in the house, than in the open air. But in no case would I recommend risking a stock with much less than 25 lbs. of stores, unless they could receive attention in the spring, and be fed if necessary. M. QUINBY.

St. Johnsville, N. Y.

NEW FRUITS.—Among the new fruits we find noticed in several of our exchanges are Moore's Pear, which *Hovey's Magazine* notices as one of the most valuable of all varieties—larger than the Doyenne Boussock.

A WINTER AGRICULTURAL VISIT.

A Good Company—Deep Snows—A Sign Out—Apple Crop—Large Stock of Cattle—Fine Ayrshire Cows and Heifers—Cut Fodder—Steaming Food—Milk Business—Chat at the Dinner-Table, and a new power in agricultural pursuits.

LAST WEEK we had the pleasure of making a winter agricultural visit to the farm of H. H. PETERS, Esq., in Southboro'. Mr. P. had a thorough training on the farm in his youth, and a love for the calling, which no blandishments of the counting-house or commercial enterprise could ever eradicate. Influenced, however, by a desire to see a little more of the world, and to indulge the feelings of romance so common to our young men, he went to California, and amid the varied turnings of fortune's wheel, came out at the "top of the heap," with his "pockets full of rocks;" and then, like a sensible man, came back to his native New England, and to the cultivation of the soil. His farm consists of about three hundred acres, of moist, granitic soil, made up of hill and vale, giving him such a variety in texture and position, as to enable him to cultivate successfully most of the crops common in Massachusetts.

We were accompanied by Mr. GEORGE M. BARRETT, who usually winters from fifty to seventy-five head of cattle, and who is well known by cattle dealers as a breeder of fine Ayrshire stock; by ELIJAH WOOD, Jr., a gentleman who is managing, *with a decided profit*, some six hundred acres of land, and who had at one time last winter ninety-nine head of cattle in the leantos. Our third companion was Dr. JOSEPH REYNOLDS, a physician and chemist, a gentleman imbued with a deep love for farming, and who tills his few acres skillfully and profitably. The writer finished out the quartette, and it may not be vanity to say, that, with this aggregation of a practical knowledge of farming, scientific attainment and long and scrutinizing observation, it was a company abundantly capable of examining and criticising what our host had to present.

Snow drifts impeded our progress somewhat, as we were obliged to travel occasionally on a level with the tops of the stone walls. Approaching within a mile of the pleasant village of Southboro', we saw a *sign* of the farm we were looking for; not a sign which indicated that a tavern was near, as in the halcyon days of stages and six miles an hour, but a sign set in the ground, a sign of thrift and progress, in the shape of *six acres* set to dwarf and standard pears. The crop for the last season we did not think to inquire for. We observed two or three fine young orchards, and many old trees that had been worked over. His crop of apples last fall was but a little less than a thousand barrels.

In his stalls we found about seventy-five head of cattle and three or four horses. Twenty-five head of the cattle were mixed bloods, and presented nothing of special importance. In another portion of the barn were some twenty-five or thirty full blood Ayrshire cows and heifers that were worth a much longer journey than we had made to see. Several of them were very beautiful, and one, a seven year old cow, a model. We have seen nothing more beautiful in color, countenance or symmetry,—and we were informed that she was excellent in her productive qualities, though equalled in this respect by some others of the herd. In another barn we saw some twenty or thirty calves—yearlings next spring—all full blood, and most of them promising great excellence. They were of good size, their countenances were bright, appetites keen, their skin loose and soft to the touch, and their hair silky and glossy. They promise well for the future dairies of New England. Near them were two Ayrshire bulls, one a three and the other a two-year old. The former was, especially, of extraordinary beauty. Many of these Ayrshire cattle were imported by Mr. PETERS, and the others are their progeny.

All these cattle are kept upon cut fodder, steamed, a little meal of some kind being mixed with it. The fodder used includes hay, corn stover, oat, barley and wheat straw and chaff. This is placed in a large, tight box, made of chestnut plank; the cut feed is thrown into it in layers—the meal sprinkled upon it and steam admitted. This is done, if we understood him correctly, twice each day, so that the food remains in the cooking process about twelve hours. It comes out of the boxes thoroughly moistened, soft, a little pasty, and with the odor of a batch of newly-drawn brown bread; this is fed to the cattle three times each day, and in addition, small supplies of roots, at an expense, Mr. PETERS says, of *fifteen* cents per day. It was the opinion of two of the party, at least, that, under a perfected system of steaming, the cost may be considerably less than this sum. Under this treatment, the cattle were in excellent condition, and the cows were yielding a large amount of milk. Something of this, however, must be owing to the neatness and regularity which pervaded everything—as the more comfortable and contented cattle are made, the more will they produce upon a given quantity of food.

Mr. PETERS does not convert his milk into butter and cheese, but sells it at the door. In this *winter* visit, we were not able to look at the fields, pastures, banks of discount in the swamps, orchards, or drainage, but have those in anticipation for a future day. We saw enough, however, to convince us that a strong and systematic mind was engaged in the operations of the farm, and that the introduction of a breed of cattle so well established in good qualities, and so many examples of progress and thrift in feeding, in implements, machinery and general management, must have an important influence upon all who are so fortunate as to see them.

At the outset of this article, we spoke of a *new* power in agricultural pursuits. This was exhibited at the dinner-table, where a long, interesting and *profitable* discussion took place upon matters entirely pertaining to the farm, and in which our hostess engaged with an intelligent zeal that proved how closely she sympathized with her husband in his business. This is the *new power* to which we adverted, and one which is to work as many changes as all other powers beside, excepting only that of man himself. When the wives and daughters of farmers feel that their calling is no less honorable than that of merchants or kings, acquaint themselves with the principles involved in it, and sympathize and sustain those who honor it, then will the farmer spring to that position which all nature points that he should occupy!

We commend similar visits to our brethren; they will break up the monotony of every-day affairs, introduce implements, machinery and new modes of practice, and above all, that spirit, or enthusiasm, that the French call *esprit de corps*, which animates us to better deeds.

For the New England Farmer.

FERTILIZERS.

ARE FOREIGN OR EXTRANEOUS FERTILIZERS NECESSARY TO PREVENT N. E. FARMS FROM DETERIORATION?

In your last monthly *Farmer* you briefly notice the dissertation of the Hon. Thomas G. Clemson on Fertilizers. He says, "Farm as you may upon the majority of soils, without the use of extraneous fertilizers, your crops will certainly diminish, until total impoverishment shall leave no alternative than starvation or emigration." Such statements, it appears to me, are not only groundless, but calculated, so far as they are believed, to injure the farming community.

My own experience on four different farms, and my observation of the experience of others, has satisfied me, that, with strict economy in saving manures, and good judgment in applying them, there are few farms the produce of which, instead of being diminished, might not be doubled in ten years, without the use of any extraneous fertilizers. I know that many of our prominent farmers have expressed the same opinion as Mr. Clemson, and consequently have expended large sums of money for guano, superphosphate, &c., and their wonderful effects upon vegetation, as often reported, have led many, to their sorrow, to follow their example.

I do not wish to be understood to condemn concentrated manures altogether; perhaps, where you have a field, difficult of access with heavy manures, if you obtain a good article, it may pay. But farmers in this vicinity begin to find out, or at least suspect, that many of those fertilizers are as easily "extended" as Burnham's rum, and it is my opinion that we can do without them, and suffer no permanent injury to our farms either.

Providence has kindly provided, on almost every farm, abundant materials for increasing their fertility; and I believe you will sustain me when I say, that there is not to be found in Massachusetts an intelligent and enterprising farmer, who saves and judiciously applies the resources of his own farm, whose acres are not from year to year growing richer and more productive.

Westboro', Jan. 12, 1861. R. M.

REMARKS.—We entirely agree with the remarks of our correspondent above. In collecting matter for the *Farmer*, we endeavor to make it a *newspaper* in an agricultural direction, and with this view we sometimes quote the sayings of others, though they may be opposed to our own opinions. We remarked that "the picture he (Mr. Clemson) drew of the future of our agriculture was gloomy."

For the New England Farmer.

FACTS ABOUT CLIMATE.

MR. EDITOR:—I have been for some time an attentive reader of your valuable paper, and take a great interest in its agricultural and scientific discussions. In reading the *Farmer* of Dec. 15th, 1860, my attention was drawn to an article headed, "Some Remarkable Facts in Relation to Climate," in which it is stated that, "In the northern hemisphere of the globe all the eastern coasts of continents and isolated masses of land are colder than the western coasts of the same latitude." Thousands of observations have confirmed this phenomenon, although its explanation is not quite yet found out."

I will endeavor to give what I consider to be a correct explanation of the facts there given. Why are western coasts of continents and islands warmer than the eastern coasts of the same latitude? In order to answer this question satisfactorily, we must find the source of this extra heat. It cannot come directly from the sun, or any other body external to the earth. For in that case, places of the same latitude would receive like portions of heat. We must, therefore, look for this source of heat within the limits of our own atmosphere. It is well known that the vapor of water contains a large amount of latent heat which is given out when the vapor is condensed into mists and clouds.

Now the prevailing winds of the northern hemisphere, especially in the winter, are from the west or north-west. These winds, in passing over the ocean, and other bodies of water, absorb large

quantities of heat and moisture. And in rising up over the western coasts of continents and islands, the watery vapor which they contain is condensed into mists and clouds, and a part of its latent heat becomes sensible, making the climate warm and humid. But when these winds have passed the highest point of the continent or island, they have lost a great part of their heat and moisture, and in descending the eastern side of the continent or island they expand and absorb both heat and moisture, which tends to make the climate cold and dry. In this way, the west winds warm the western side of the continent, and cool the eastern side. It is stated that in the southern hemisphere the difference of climate between the eastern and western coasts of continents and islands is decreased, the eastern coasts being warmer than the western.

But the prevailing winds of the southern hemisphere are from the east and south-east, consequently they warm the eastern coasts, and cool the western coasts. While the coasts are warmed in the winter by the condensation of watery vapors contained in the atmosphere, and by the reflection of heat from the clouds, and cooled in summer by the large quantity of rain which falls, carrying off a great part of the heat through the rivers to the ocean, (to be absorbed and brought back again in the winter by the winds,) and by thick masses of cloud which overspread the sky a considerable portion of the time, preventing the rays of the sun from over heating the ground, the interior, especially places protected from the prevailing winds by ranges of mountains, or other high tracts of land, (unless separated from these by large lakes or inland seas,) has a dry atmosphere, and is scorched in the summer by the unobstructed rays of the sun, and frozen by excessive radiation in the winter.

ABNER L. BUTTERFIELD.

West Dummerston, Vt., 1861.

THE LARGE OX.

John Sanderson of Bernardston, Mass., is the owner, grower and feeder of one of the largest, fattest and most perfect animals of the cattle kind ever seen in Massachusetts. Taller and more bony oxen may have been, but none better made and developed of corresponding weight. He girts 10½ feet, is five feet 8 inches high, is 9½ feet from the centre of the head between the horns, to the roots of the tail, is 3 feet 5 inches across the hips, is 3¼ feet thick from point to point of shoulder, is 4 feet in his greatest thickness forward of the hips, is 7¾ feet from rump to point of shoulder, and is 10 inches around the fore leg above the ankle. Standing in a natural position, 3½ feet was measured from outside to outside of track of fore feet. He has not lately been brought to the scales, owing to the inconvenience of getting about, but his weight is adjudged about 3,500 pounds. The history of this grade Durham giant is briefly this:—He fared well when a calf, and we rather think sucked a free milker; was worked till he was 3½ years old, had common pasture one year after, and has been fed in a barn ever since. He was seven years old last March. His daily grain feed at present is 12 quarts, half oats and half corn ground together.—*Springfield Republican.*

LEGISLATIVE AGRICULTURAL SOCIETY.

[REPORTED FOR THE N. E. FARMER BY THOMAS BRADLEY.]

The fifth meeting of this Society was held in the Representatives' Hall on Monday evening, when the audience completely filled the place, rendering it necessary to open the galleries to accommodate the crowd, a large proportion being ladies. A number of specimens of flax cotton, or fibrilia, as it is called, together with goods manufactured from it, and the model of a machine for breaking the straw from the field, were on exhibition, and were examined with much interest by those present, among whom were a number of extensive manufacturers of cotton and woollen goods.

Mr. FREEMAN WALKER, of North Brookfield, called the meeting to order, and introduced Mr. S. M. ALLEN, as the Chairman of the evening. Having announced the subject for discussion, "*Flax—to be cultivated in the North as a substitute for cotton*," Mr. Allen addressed the meeting as follows:

By our own individual experience, as well as from universal history, we learn that agriculture has ever been the great foundation stone of national prosperity. She is the parent of manufactures, and the grandparent of commerce. When this great family acts in harmony with the natural law, the ship of state glides smoothly on, laden with fruitful blessings, and bestowing them liberally to needy humanity,—but when either member becomes reckless, and wanders from the prescribed path, and sets up its own supremacy, the equilibrium becomes destroyed, and death and decay are inevitable. Nations have risen to thrive under the proper use of the many blessings which these three institutions vouchsafe to humanity, but have fallen under the misuse of them never to rise again. The farms of the United States are the great reservoirs from which we derive our bread and meat, and the farm-houses are the nurseries for recuperating the physical and mental energies of metropolitan life.

The agricultural resources of any country must, of necessity, be versatile, as neither the soil or climate can be the same. The geological formations were originally different, and the influences of cultivation remove them still further apart; while the climate in different latitudes will produce a different plant in the same soil, and the humidity of the atmosphere, and the electrical and magnetic influences pervading it will produce a different plant in the same latitude. These influences are changing every hour, through the whole country, under the use of the plow, the hoe and the axe, which level the forests and open the soil to use and profit.

The treatment of lands, the seed sown, and the

crops produced, must of necessity be as different as the soil and climate. A crop suitable for the Berkshire Hills would not be the most profitable for the lands of Essex county; neither would soil at the same altitude on Mount Katahdin, in Maine, produce the same crop as would the Green Mountains in Vermont. The same rule applies to the raising of stock upon the farm, and the food they eat. The dray horse in Boston could not perform the same amount of labor as the one used on the sides of the Monadnock, if he had only the same food to eat, neither will two cows give the same amount of milk, or fatten alike, fed upon the same food in the different localities of Barnstable and Berkshire.

All the elements of nature are constantly changing, and thus produce different results in different localities, and at different periods.

Vegetation changes, also, and often the tropical plant may be acclimated to northern or northern temperate zones. Many plants, like that of cotton, have been confined to certain latitudes for a perfect growth, for centuries, with but little change, but *Flax*, the subject of our discussion this evening, is of extended growth, and from its fibre the same result, or a better, is produced, so that nature seems harmonious in her laws, after all, and is not always partial in the distribution of her bounties.

Flax is of almost universal growth over the whole earth, and from the earliest authentic history we find its fibre in use for clothing and its seed for oil. Egypt, Rome and Britain used it for linen, which for thousands of years was the principal covering of the people, and the American colonies followed the mother land in her preference for its wear, and cultivated the plant among their first, most useful products. Up to about 1750, it was used principally clear, but from that time cotton filling was introduced, and a mixed goods produced which became the staple of commerce of the times. When the improvements in the cotton machinery were brought out by *Pave*, *Arkwright* and *Hargreaves*, in 1767, cotton come more into general use, and flax and linen, for ordinary uses, began to fall in the rear, and for the last century it has been a secondary product both in Europe and America. The great demand for Cotton, and its almost exclusive growth in limited sections of the world, has, at various periods of time, enlisted great efforts for flax, to make it a substitute for cotton, but most of them failed from the fact that the operators mistook the anatomical character of the fibre and the cementing compound which held them together on the stalk of the plant.

The old method of working flax was in long line, using the filaments and fibres in a united thread, without reducing them down to the ultimate fibril, either in length or size, and using in their manufacture machinery peculiarly adapted for the purpose, and differing materially from that used for manufacturing either cotton or wool. The mode of preparing the fibre was also peculiar, the same being subjected while in the straw to a fermenting or rotting process, which tended to set the gluten and albumen, and, when followed by boiling in alkalies, rendered the fibres harsh and brittle, and hard to spin, making the whole process of manufacturing linen more expensive than that used for cotton or wool. This form of manufacture for linen is now practiced in Europe. The process of making fibrilia, as well as yarns and cloth, from the same, is entirely different from any thing ever before used, and a corresponding result is produced. The albumen, gluten, and other substances which pervade the filaments and fibres on the original stalk, and which cement them together, are dissolved and removed by simple solving processes, and the fibrils are separated to their original length, of from one to two inches, by a review of the solving process with a simple mechanical one which fits the fibrils for spinning on either cotton or woolen machinery, and which makes it resemble those fibres both in color and whiteness and length of staple. The old processes of working flax would entirely fail in working fibrilia, which can be prepared from either flax or hemp, and in fact, many other fibrous substances.

We are thus able to lay before you specimens of fibrilia made from flax, which resemble cotton and wool, and which can be used to great advantage with either of these fibres. Fibrilia spins like cotton, either alone or mixed, makes a stronger and better yarn or cloth, and can be produced cheaper than cotton and can either be raised or manufactured in New England in large or small quantities, at a profit both to the farmer and manufacturer.

Flax can be readily raised either in the West or East for the value of the seed alone, the fibre being profit. At the present time, there are hundreds of thousands of tons of flax annually raised in the West simply for the seed, and the fibre is thrown away. The soil of New England is well adapted to the culture of flax, and besides the crop of seed and fibre which may be saved, there is a valuable food from the breaking of the unrotted straw which is rich in nutritious substances, and which affords more than one-half of every ton of straw as valuable food for cattle.

If the eastern and north-western States were to set aside one-quarter of their tillable lands for flax for fibrilia, the product would be over 16,000,000 bales of 500 lbs. each, which would be worth more then a billion of dollars. If Massachusetts should raise and manufacture her own

cotton or fibrilia for twenty-five years, it would double her whole State valuation of 1860.

Dr. WINSLOW, of Boston, said he had had his attention called by the chair to two points—the practicability of raising flax to a profit, and its effect on the great staple of the Southern States. Speaking of the manufactures of flax, he said the great object was to work it on cotton and woollen machinery; the difficulty has been its long staple, the thread being bound in the stem of the plant as a bunch of rods; but now an excellent machine is invented to break the stem, after which the fibrilia can be mixed with cotton or wool, and spun and woven with either. He then spoke of the opinion given by Dr. Hayes, of Boston, that the short staple flax could be bleached and colored just as easily as either cotton or wool. He closed his remarks by saying that Massachusetts mind and Massachusetts invention had been in a great measure the cause of the present jealousy on the part of the South towards the North.

F. W. TAPPAN, of New York, being called on, said the flax cotton could be produced, as it was exhibited to the meeting, for two-thirds of the price of cotton. He said the flax in the West was mowed with mowing machines, and thus was harvested cheaper than any other grain crop. The idea that you can get a crop of flax only once in seven years is now obsolete, and flax is considered a good preparatory crop for wheat. Flax is bought in the West to be delivered in Boston for 4½ cts. per lb., and this flax has been cottonized here and sent back and sold where it was grown for 15 cts. In Western New York and Ohio, in the farming districts, the flax is raised for the seed alone, there being no market for the straw, and this is often used to fill up holes in the roads to get it out of the way.

Mr. ALLEN, the Chairman, said that good land will produce two tons of straw to the acre; from this five bushels of seed can be got worth $1,50 per bushel, and if the straw is broken on the ground, 300 or 400 lbs. of fibrilia ready for the spindle can be obtained, leaving 25,000 lbs. of stalks, which will be more nourishing for cattle than the same amount of hay. He said that from a quarter of the cultivated lands of the North, flax enough could be raised to more than four times equal the cotton crop of the South.

E. HASKETT DERBY, of Boston, next spoke, and said he had travelled much in the South, and that the cotton there cost from five to six cents to raise, without the profit of the planter. He alluded to the idea prevailing there that cotton is a regal product, and by it they controlled the commerce of the world. To show the fallacy of this, he spoke of the products of India, where more cotton was raised than in the whole South, as also that that country raised over 700,000 bushels of flax seed, besides indigo and almost everything else. He said that, from actual observation, he knew that the product of South Carolina, on old lands, was only 100 lbs. of cotton to an acre, while with the plentiful use of guano and other fertilizers, on the best lands, they could not raise over 300 or 400 lbs., and the entire State did not average more than from 100 to 200 lbs., to the acre. The wild flax, said he, is indigenous to Oregon and California, as also in other portions of our country, and reckoning the yield of wheat at 20 bushels to the acre, with the extra cost of harvesting, that a person raising flax would be a clear gainer of the value of the linten. He concluded by speaking of the disposition of slavery to move southward, two-thirds of the slaves now being south of the Carolina line, and that the extensive cultivation of flax as a substitute for cotton would be the true method of ameliorating the condition of the negro.

RICHARD S. FAY, of Boston, said flax culture was no new thing in Massachusetts, and if he thought it could be grown to advantage no one would give it more attention than he would, but he thought it could not. He was engaged in manufacturing, and came to the meeting to obtain information as to the cost of growing flax, and the best manner of doing so, and not to discuss the question of slavery. He had found, in his experience, that both cotton and wool had a serrated edge, and when wound together, would hold firmly, whereas flax was round, or tubular, and could not be made to unite with either cotton or wool. His opinion was, that a ton of flax could not be produced at a profit in Massachusetts, and he desired to know how much it would cost to grow an acre of ground in flax, and how much flax you could get. He was of opinion that if a man had a farm of 50 acres, and grew 5 acres in flax each year, for 10 years, he would be ruined at the end of that time. He spoke of the great labor required to cultivate flax, and warned farmers not to be induced to turn their land to flax with the expectation of making large profits.

The Chairman said that he could not give the cost of cultivating flax in any particular locality, as the land and climate made all the difference, but he did know that their agents in the West could engage all they wanted for 4½ cents per pound delivered here. Speaking of cotton, he said that in bleaching it becomes serrated, while wool was tubular, and had rings as it were around the tube; flax is tubular, and in long line spinning is smooth, while if broken in the Randall machine by the solving process, the tubes become flat at the ends, and thus will unite easily with either cotton or wool on the common cotton or woollen machinery.

Mr. NICHOLSON, of Cambridge, being called on, exhibited samples of flax, explaining the various processes, from the straw to the printed cloth. He said the flax retained the color of the dye much better than cotton, and as well as wool.

Being asked how much fibrilia the manufactory in Roxbury had made, he said that they had made 400 lbs. of fine per day, but as they were enlarging their works, they were not making any now.

Mr. RANDALL, of Rhode Island, the inventor of the machine for breaking the stalk, gave an interesting account of his experiments in spinning flax on cotton machinery, from 1850 to the present time.

In answer to an inquiry by Mr. Walker, of North Brookfield, Mr. Tappan said that from 10,000 to 11,000 lbs. of fibrilia had been made in Roxbury.

It was then announced that the subject for discussion at the next meeting would be—"*Sheep husbandry—Its advantages compared with other branches of agriculture in Massachusetts*," and that Sanford Howard, editor of the *Cultivator*, would preside. The meeting adjourned.

For the New England Farmer.

NEW ENGLAND WHEAT.

MR. EDITOR:—In the early days of New England, and for a long series of years, wheat was extensively cultivated, and the crops were very abundant. All the inhabitants, with few exceptions, raised their own wheat. The few who were unable to raise their own wheat, purchased of their neighbors, by exchanging their labor for wheat; so that all were well and cheaply supplied from the soil of New England.

But our fathers, though wise beyond the common herd of mankind, did not know everything, any more than we do. They never imagined that a time would come in which they or their descendants would not be able to raise wheat enough to supply all the inhabitants of New England. They believed and acted upon the principle that "To-morrow shall be as this day, and much more abundant." They continued, year after year, for a great length of time, to raise wheat from the same pieces of land, with a continually decreasing crop every succeeding year, till the land would produce no longer. So they concluded, finally, that the soil was exhausted, or run out, and they abandoned the cultivation of wheat entirely.

From that day to this, that is, for the last fifty or sixty years, but little wheat has been raised in New England, from the mistaken idea that it cannot be successfully and profitably cultivated here. Though the quantity of wheat consumed here has been, and still is, enormous, yet we continue to look to the great States of the West for the supply of our wheat and flour, and for most of our other kinds of grain. "These things ought not so to be." We have a soil naturally hard to subdue and cultivate, but when properly subdued and cultivated, it is sufficiently exuberant and productive to supply all our inhabitants with wheat, and with all other kinds of grain. It is, therefore, a great mistake to think that we cannot raise our own supply of wheat. We can do it, if we only know how, and exercise the perseverance and skill.

A few years since, in order to encourage the cultivation of wheat, the State of Massachusetts offered a bounty upon the best crops of wheat, which, if it had no other effect, went to prove that it could be successfully and profitably cultivated here; nay, more, that it was more profitable than any other kind of small grain. Perhaps no private individual has said and done more to encourage its cultivation than your old friend and correspondent, Mr. Henry Poor, of Brooklyn, N. Y., who has ever manifested a very lively interest in this business, and who, some time during the past year, requested your correspondents to report the results of their efforts in the cultivation of wheat.

We do not raise any winter wheat in this town, for this plain reason, because we do not try. We raise considerable spring wheat, and when we take pains to cultivate it properly, we have very good crops. We might, perhaps, by taking the like pains, succeed equally well with winter wheat. But as we have been in the habit of seeding down our lands to grass in the spring, we do it upon spring wheat, because we consider wheat as the most profitable of all the small grains, and as the best to seed upon.

Tne following is a true but imperfect account of the crop of wheat I raised the last year. The land on which it grew is a deep, rich, vegetable loam, very tenacious, and slightly inclining to the south-east. The seed used was the Michigan wheat, a very large, round, plump berry. And the product was a little more than thirty-two bushels to the acre. The land was cultivated in the following manner: When it was first broke up, it was plowed very deep, and the sod completely turned over. It was then harrowed lengthwise on the furrows, furrowed out and planted to potatoes. No manure was applied except ashes and plaster. The product was very great. The second year I plowed in at the rate of forty loads of stable manure to the acre, and planted with corn on the 7th day of May. The corn was the most perfect I ever saw, and with it I furnished a large number of the inhabitants with seed corn the following year. The third year, on the 1st day of May, I plowed and harrowed my land, sowed my wheat and harrowed it in, then sowed my grass seed and bushed it in. The only application I made to the land was a considerable quantity of air-slacked lime. The result I have given above. The seed wheat was thoroughly cleansed from foul seed by washing. It was then soaked in salt brine for about twelve hours, and sowed at the rate of two bushels to the acre.

JOHN GOLDSBURY.

Warwick, January, 1861.

AMERICAN POMOLOGICAL SOCIETY.—We have before us, through the polite attentions of Hon. MARSHALL P. WILDER, the Proceedings of the Eighth Session of the American Pomological Society, held in Philadelphia, Sept. 11th, 12th and 13th, 1860. The first paper is the address of the President, Col. WILDER, liberal extracts from

which we gave soon after the meeting. The discussions which followed the reading of the Treasurer's report, were upon apples, currants, strawberries, raspberries, blackberries, gooseberries, grapes, pears, and pears on quince stocks. These were followed by discussions on the *culture* and diseases of the grape, and culture of the pear. Reports were read from Committees and from the States.

The pamphlet is from the press of Benton & Andrews, Rochester, N. Y., and is a credit to their skill in the art.

For the New England Farmer.

GETTING IN GRASS SEED—SOMETHING TO MANURE WITH.

MR. EDITOR:—There are one or two things that I would like to call your attention to, that is, to say a word in addition to your remarks in the *Farmer* of Jan. 19.

In "getting in grass seed," I have practiced for several years to wet the grain that I was going to sow, and mix the grass seed thoroughly with it, by putting the grain and grass seed in a tub convenient for the purpose and stirring well. The grass seed will adhere to the grain, and will go where that does, and a little practice will enable the operator to sow the grain as conveniently as if unwet. This method will save the expense of a machine, and any one that does not have one, once trying the method I have described, will not spend the time to go over his ground a second time, to sow his grass seed, when he can get it so much evener applied in this manner.

I have also found a slab from a saw log better than brush, to give the last finish to seeded land, and better than the roller on heavy land, as it pulverizes the lumps, giving the surface a smooth, fine tilth, without packing it.

My method is to take a large slab, a foot wide or more, about 9 feet in length, with a 2 inch auger hole at about 2 feet from each end, into which I fasten two small chains, and bring them together in the form of a triangle; these are attached to the whiffletree, and drawn by a horse, with the convex side down. A weight of any desired heft can be attached to the top, or the operator or teamster can ride on the slab, where the surface is not too unequal or stony. I will suppose that the land has been fitted for the mower, and then this is just the thing to "put on the finish."

As regards "something to manure with in the hill," you recommend to keep the droppings of the roosts of fowls dry, and use half a pint in a hill. Perhaps the muck and plaster would remedy the evil I have in mind. It has been my experience, and others of my acquaintance, that the manure of fowls should be wet with soap suds, or something else, before using; as its dry nature attracts all the moisture from the seed, preventing its germination. E. S. ALLEN.

Jacksonville, Vt., Jan., 1861.

REMARKS.—Capital. This idea of the use of the slab is entirely new to us. If we live long enough, we shall certainly put it in operation.

For the New England Farmer.

POULTRY RAISING.

I see in your valuable book, you often publish an account of poultry and their doings. Below is a correct account, Dr. and Cr., for the year 1860. If you think it will be any benefit to farmers, or to poultry-raisers, you can make what use of it you think best.

I have 4 old ducks which have averaged 3 eggs per day since the middle of December. Is that not uncommon, after laying through the summer?

STOCK OF POULTRY FROM JAN. 1, 1860, TO JAN. 1, 1861.

Jan. 1, 25 fowls and 6 ducks, at 50c each	$15,50
" 8 chickens 1 month old	80
" corn and oats, $3,10, chicken died, 12c	3,22
Feb. and March, corn and oats	6,00
April, corn and barley, $3.75, 4 hens died, $2	5,75
May, corn and barley, $3,70, 1 hen died, 50c	4,20
June, corn and oats, $2,70, meal and shorts, $3,55	6.25
July, corn and oats, $5,10, scraps, $3	8,10
August, corn and oats	4,85
Sept., corn and oats, $5, 2 chickens died, 75c	5,75
Oct., corn and oats	3,50
Nov., corn and oats	5,15
" bought 6 geese, at 75c each	4,50
Dec., corn and oats	2,55
" 3 Geese stolen before Christmas	3.50
	$79,72
Interest on value of stock	1,00
	$80,72

JANUARY 1, 1861—STOCK ON HAND.

29 Fowls, at 50c	$14,50
12 Ducks, at 50c	6,00
	20,50
Value of stock January 1, 1860	16,30
	$4,20

INCREASE.

Jan. 1, 19 doz. and 4 eggs, at 28c, $5,42, ducks sold, 50c	5,92
Feb., 30 doz., at 27c, $8,10, 1 doz. and 1 D. eggs, at 22c	8,42
March, 28 doz. and 7, at 22c, $6,30, 2 hens sold, $1	7,30
" 2 doz. and 11 D. eggs, at 24c	70
April, 14½ doz., at 20c, $2,90, 4 chickens sold, $1,60	4,50
" 5 doz. D. eggs, at 25c, $1,25, 2 barrels manure, $2	3,25
May, 19 doz. and 2 eggs, at 20c	3,83
" 5 doz. and 5 D. eggs, at 25c	1,36
June, 19 doz. at 20c, $3,80, 9 chickens sold, $3,75	7,55
" 4 doz and 3 D. eggs, at 24c	1,02
July, 17 doz. and 8 eggs at 20c	3,53
" 2 doz. and 7 D. eggs, 52c, 16 chickens sold, $6	6.52
Aug., 8 doz. and 9 at 20c, $1,75, 2 barrels manure, $2	3,75
" 1 doz. D. eggs. 26c, 10 hens sold, $5	5.26
" 21 chickens, $9,87, 1 duck, 80	10,67
Sept., 8 doz. at 20c, $1,60, 1 doz. and 9 D. eggs, 35c	1,95
" 7 chickens, $2.62, 8 ducks, $5,50	8,12
Oct., 6 doz. and 3 eggs, at 24c, $1,50, 3 bbls. manure $3	4,50
" 1 doz. and 7 D. eggs, 38c, 5 hens sold, $2	2,38
" 12 chickens, $4,03, 11 ducks, $8	12.03
Nov., 12½ doz. eggs, at 25c	3,12
" 2 doz and 10 D. eggs, 70c, 2 barrels manure, $2	2,70
" 15 ducks sold	10,27
Dec., 20 doz. and 1 eggs, at 25c, $5,02, manure, $2	7,02
" 3 doz. D. eggs, 75c, 8 ducks sold, $4	4,75
" 3 geese, 25½ lbs., at 13c, $3,28, 2 hens sold, $1	4,28
	$134.70
Value of increase of stock	4,20
	$138,90
Value of hens' eggs set $3,07	
" ducks' " " 1,18	$4,25
	$134,65
Stock and keeping	80,72
Profit	$53,93

NUMBER OF EGGS DURING THE YEAR.

139 dozen and 10 hens' eggs.
31 dozen and 9 ducks' eggs.

225 dozen and 7

Eggs charged per month as sold from the store. Poultry as per price paid by the butchers.

Stock, white shanghai and Muscovy ducks.

Salem, Jan., 1861. J. B.

RURAL ARCHITECTURE.

DESIGN FOR A SUBURBAN RESIDENCE, BY GEO. E. HARNEY, LYNN, MASS.

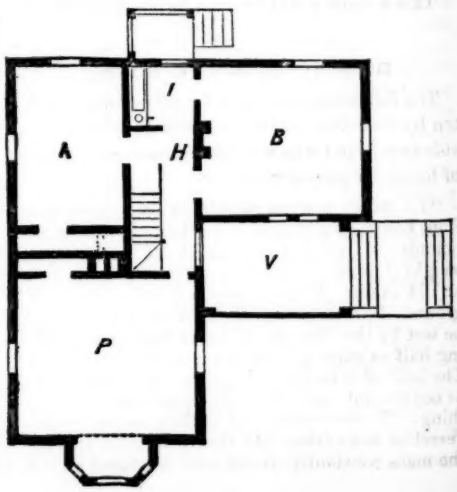
Owing to an accident, which has disabled our engraver, and prevented him from working for some days, we are unable to present our readers with our regular design this month, and therefore give them an engraving of a design by Mr. HARNEY, for which we are indebted to the *Horticulturist*, from which magazine we copy the following description:

We offer the readers of the *Horticulturist* this month another design for a rural dwelling.

It is smaller and less expensive than those we have before presented, and on this account we are confident that it will meet the wants of a larger class of people.

It is designed to be built of wood, and covered with plank put on in the vertical manner, and battened. The roof is to be covered with cedar shingles, part of them pointed at the lower end, and laid on in the lozenge or diamond pattern, and the rest put on in the usual manner.

The exterior is somewhat ornamental in its character, and great care should be taken in building, that the trimmings have a solid, substantial appearance, the verge boards more particularly. For a cottage of this size, the plank from which they are cut should never be less than two inches in thickness, but oftentimes thicker than that. The bay window and verge boards form the prominent features of the front, while the entrance



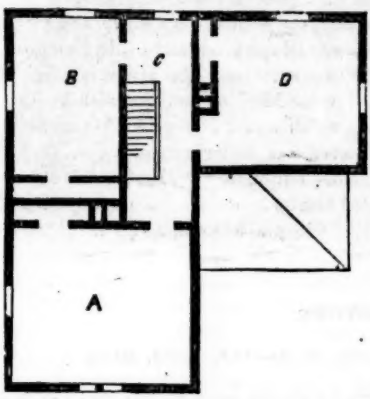
door is shielded by a veranda eight feet wide, supported on heavy posts and guarded by a balustrade. The upper panel of the front door is glazed to admit light into the hall. This hall is 6½ feet wide and 13 feet long—contains a flight of stairs to the second story, the only chamber flight in the house—and opens into the several rooms.

The parlor (P) is 14 feet by 15 feet 8 inches, and is lighted by the bay window in front, and two single windows on the sides. It also contains a closet on the side of the chimney breast.

The bed-room (A) is 9 feet by 14, and is furnished with a large clothes-press; a flue runs from the room through this closet into the chimney.

The kitchen (B) measures 13 feet by 14 feet 6 inches, and opens into the pantry, which has on the left side a pump, and sink, with a closet underneath, and is fitted up with shelves for stores; it opens out upon a platform, from which steps descend to the yard. Under this platform is an entrance to the basement, which may contain a cellar kitchen with oven and boiler, closets, store-rooms, and fuel rooms.

On the second floor are three good-sized chambers, well lighted, and supplied with closets.



The height of the first story is 10 feet 6 inches, and that of the second is 4 feet at the eaves and 10 feet in the centre of the rooms.

This cottage could be built for about $1500.

HOW TO DISSOLVE BONES.

The following is a copy of a private letter written by the Editor of the *Southern Field and Fireside* to a friend who wanted to dissolve a quantity of bones for raising root crops:

"To make a good article of superphosphate from bones, you should use about half as many pounds of sulphuric acid as of bones, (dry weight;) break the bones as fine as you can with an old axe or sledge hammer, (they ought to be ground, if practicable with you,) when they should be wet by the free use of water boiling hot, adding half as many pounds as there are of dry bones. The half of a molasses hogshead will perhaps be as convenient and cheap for operating in as any thing. To the bones and boiling water in this vessel or some other, add slowly the acid, and stir the mass constantly as the acid is poured in. A powerful boiling takes place from the escape of carbonic acid from the bones, which gradually subsides by occasionally stirring; the bones in a week or ten days become like paste, when the whole could be taken out and mixed with perfectly dry loam, or charcoal dust, to fit it for drilling with a machine. Where bones are large, or the acid weak, it may take a month to dissolve their earthy matter; and this end is promoted by covering the large tub or half-hogshead holding the bones and acid, with several loads of fermenting loose dung to increase the temperature, where heat is an important element of chemical action. I should not use over 100 lbs. to 300 lbs. of dry bones. Any bones or pieces not softened, I would compost with fermenting stable manure, whose heat and carbonic acid will slowly dissolve them."

LEGISLATIVE AGRICULTURAL SOCIETY.

[Reported for the N. E. Farmer, by Thomas Bradley.]

The sixth meeting of this Society was held in the Representatives' Hall on Monday evening, and was quite fully attended. Sanford Howard, editor of the *Cultivator*, presided.

On taking the chair, Mr. Howard announced that the subject for discussion was, "*Sheep Husbandry—its advantages compared with other branches of agriculture in Massachusetts.*" He said the sheep was the most indispensable of all domestic animals to civilized man, as it supplied both food and clothing. Its domestication was of great antiquity, and all civilized, and even barbarous people, have kept it for its meat and wool, and sometimes for its milk. Speaking of the advantages of sheep husbandry, he said they were numerous; 1st, Mutton can be produced at less cost than either beef or pork, and if of proper quality, will command as high, if not a higher price, leaving the wool a clear gain. 2d, Sheep can be kept where no other domestic animals, except goats, can maintain themselves, as on mountains or hills, where the surface is rocky and rough, and where vegetation is scanty. Sheep, said he, eat a much greater number of plants than cattle or horses, and on this account, and on account of being able to obtain food under unfavorable circumstances, they will live and thrive where larger animals cannot. 3d, They aid more than other animals in improving the fertility of land, are more or less useful on arable farms, whatever may be the staple crops, and are particularly beneficial in wheat culture. Clover or grass, fed off by sheep, furnishes an excellent preparation for wheat—better than when those crops are turned in green—and light soils, when fed by sheep, are better fitted for the production of grain crops. Pastures which are generally grazed by cattle and horses are benefited by being occasionally fed by sheep, as they kill out the wild vegetation, and promote the growth of a better species of plant. Permanent meadows, and all mowing

grounds not too wet, are also improved by being grazed to some extent by sheep, as feeding off the aftermath, and being pastured through the season once in four or five years. 4th, Sheep may be made to kill out shrubs, briars, &c., which they do by constantly cropping the leaves and tender shoots, thus weakening and ultimately killing the plants, when grasses and white clover take their place.

Mr. Howard then proceeded to speak of the breeds of sheep, and said that no domestic animal, except the dog, presents such striking diversities of character as the sheep. All sheep, said he, are one species, although attempts have been made to divide them into two—hairy and woolly, and this he considered absurd. He said they were either the aboriginal or natural and the artificial breeds.

Our breeds, said he, with the exception of the Merino, have been derived principally from England, the Merino being first brought here from Spain. The choice of breeds by farmers should be regulated by the object in view, and by the particular circumstances in which they are to be placed. For wool alone no breed will pay so well as the Merino, and its sub-varieties, as the Saxon, Silesian and French. In the eastern section of the country, where the great markets are readily accessible, some of the British breeds will be the most profitable. As in their native country, so it will be here, those of the larger class will be found best adapted to the richest and best pastures, and the smaller class to the rougher and poorer districts, and he mentioned among the former, the Lincoln, Cotswold, and others, all long wooled breeds, next the South or Sussex Down, the Hampshire and Shropshire Down and the Oxfordshire Down or Down Cotswold. For mountainous districts, where more hardihood is required, he said the Cheviot and the Black faced Mountain, both Scottish breeds, are well suited —the latter being the hardiest breed known, although we have very few of them in this country.

Mr. Howard then spoke of the characteristics and origin of the different breeds of sheep, and exhibited to the meeting a large number of samples of wool from the various kinds—both fine and coarse, long and short.

Speaking of the comparative number of sheep in Great Britain and the United States, he said that McQueen, in 1836, gave the number of long wooled sheep in Great Britain and Ireland as 19,800,000, while the number of short wooled was 28,200,000, the former averaging 7½ lbs. per fleece, and the latter averaging 3½ lbs., and altogether producing 246,700,000 lbs. of wool. The number now in the United Kingdom is about 55,000,000, of which all but about a quarter of a million, in Ireland, are in England and Scotland. Mr. Howard stated that by the census of 1850 the number of sheep in the United States was 22,000,000, but he understood this number had now decreased to 20,000,000. He closed by urging on farmers the numerous advantages of raising sheep, and expressing a hope to see this branch of agriculture receive the attention its importance in a pecuniary sense merits.

Mr. FISK, of Shelburn, considered that the object in keeping sheep was to make money, and the kind of sheep that brought the most were the best to keep. In his county the pastures were good, but the farmers there found sheep improved even the good lands; they could not afford to have their sheep eat bushes and briars, as they considered it cheaper to cut them down with the scythe in August. We keep, said he, large flocks of sheep, and we find it best to limit our pastures. He thought that if land was not worth more than $8 or $10 per acre, it was better to let it grow to wood, but by feeding by sheep they found their poorest lands were doubled in value. They kept the South Down sheep, and from them got large and splendid lambs. In Franklin county they recommended the coarse wooled sheep, mixed with Merino, and from these they got fleeces which would average $2,50 each, which he considered was better remuneration than could be obtained from cows. He had 25 ewes which yielded him 35 lambs for the market; for the single lambs he got $6 each, and for the twins $5, and could do it every year for 10 years. It cost much to keep his sheep, but he considered this, to him, the most profitable branch of farming. That great torment, the dog, had checked the breeding of sheep, and until the useless and vagabond curs were killed, sheep husbandry would never prosper. In Franklin county, he said, no farmer kept the number of sheep he would do were it not for dogs. If these could be killed there would be sheep enough, but now the dogs outnumbered the sheep. He said that the subject of repealing the dog law had been spoken of, but he thought that those who had the interest of the farmer at heart would rather insist on its enforcement instead of its repeal.

Mr. CLARK, of Framingham, spoke briefly on the dog question, and advocated the enforcement of the law requiring dogs to be muzzled.

RICHARD S. FAY, of Lynn, said he was glad to hear the expression of opinion on the dog law. We have a good law now, he thought, if it was only enforced, and if this was properly done he had no fear for the sheep. He considered that the reason it was not better enforced was because the penalty was uncertain and the matter of complaint was troublesome. In his town, the dog tax had made every dog respectable, and when sheep were killed the owners could be reimbursed.

All farmers, he thought, agreed that sheep were the most profitable animals to keep on a farm, and he thought they had been truly called the animal with the golden hoof. The gentleman from Shelburn had said he cared little for fine wooled sheep, but he thought that in some places these would be decidedly the most profitable. We must look to the mutton as well as the wool in raising sheep, and for the former there is no question the large sheep are the best, and for wool, the family of Downs are more profitable than any other. It is, said he, for the advantage of the manufacturer, and in this branch of industry he had a large interest, to advocate the keeping of fine wooled sheep, but he considered it his duty to his fellow farmers to advise the keeping of the coarse wooled kind. He read a list of prices his firm were now paying for wools from Pennsylvania, Ohio, New York and Vermont, saying that the lightest were the highest, while the coarse returned 20 per cent. more. He said he had rams weighing 300 lbs. each, and he had a flock of breeding ewes the average weight of each of which was 180 lbs. He had tried the Saxony and Merino breeds, but they had eaten him out of house and home, and by mixing these breeds he derived no benefit. He had 50 breeding ewes of the Oxford Down breed, and he got 74 lambs from them the past season. He had his lambs dropped from February to the middle of March, and found this was the best time, as they could then stand the weather better. He commenced keeping sheep 14 years ago, and then had land which was good for no farming purpose, but now he kept on this same land 12 to 18 cows; besides his flock of 150 sheep, all of which were doing exceedingly well, and the improvement was attributable mainly to the sheep. He thought it important that the land should be watched to see that it is not fed too close, and he recommended the giving of each sheep at night half a pound of cotton oil seed, as a sheep that is fed on nothing is worth nothing. He thought that the more various the food, and that of good quality, the better a sheep would pay, but care should be taken not to let them get poor, as it would cost more than they were worth to put the flesh on again, and the wool would be sure to be tender.

Amasa Walker, of North Brookfield, said that a neighbor of his kept a flock of 400 sheep last fall, and he had had 50 of them killed by dogs. We have, said he, a good many agricultural societies in different parts of the State, and he suggested that they make it their business to look after the dog law, and report to the Secretary of the Board of Agriculture the names of those towns that did not enforce the law. When he was in England, he saw sheep on every farm, and often heard wonder expressed by farmers there that they were not on every farm here; he was satisfied they were essential on every farm, as they eat the grasses which no other animal will eat. There were two matters which required looking to, the first of which was the enforcement of the dog law, and next, the keeping of sheep orderly, a matter requiring little trouble with the modern breeds.

Charles S. Davis, of Plymouth, said he had suggested to members of the Legislature an amendment to the dog law, and an order had been introduced having that object in view, and which was referred to the Judiciary Committee, but this had been reported back and referred to the Committe on Agriculture, a member of which had told him that, instead of being amended, the law ought to be repealed; but he hoped the Legislature would make the law stronger and more effectual than it now is. More than half the farmers in the State, said he, believe that the keeping of sheep is injurious to the land, but it is a rule in England that if there is vegetable matter enough on the land to absorb the fertilizing qualities of the sheep droppings, that keeping sheep is decidedly beneficial. It is also made an objection, that sheep will jump fences, and that our fences are not suitable for sheep; this is also a mistake, as the new breeds of sheep will very rarely jump, but will creep through holes, and to keep them in the pasture, lower fences than are required to restrain cattle are necessary. He said it was well known that a man who keeps a dozen sheep finds them the most profitable of anything on his farm. He was desirous of seeing the dog law so amended as to make the towns liable for cattle and sheep killed by dogs, and he thought this far preferable to any action agricultural societies could take. Ten years ago, there were 220,000 sheep in the State, while now there are not more than 112,000; but there are 33,000 dogs now licensed, more than that number unlicensed, and the first year the dog law was in operation there were as many killed. He thought that the owners of dogs, good ones, and those worth keeping, were decidedly in favor of the law.

Mr. Fisk, of Shelburn, spoke in severe terms of the Selectmen in his town, because they would not enforce the law, and said that the farmers had been obliged to take the matter into their own hands. He considered that with them the Cotswold breed of sheep were the best to keep. He had five for which he paid $100, and they had paid for themselves the first year he had them. They were tame and kind, and would remain wherever they were placed.

Mr. Wallis, of Bolton, said he was one of the Selectmen of his town, and thought the dog law was now all that was required; the trouble was not in the law, but in the execution of it. He related the case of a farmer in Bolton who

three years ago informed the Selectmen that he had 30 sheep, worth $4 each, that had been maimed by dogs, and they told him to kill them. He did so, and they paid him his price for them out of the dog license fund. It afterwards appeared that two months before the same sheep had cost him $2 each, and he had consequently doubled his money on them. besides getting the wool, pelts and carcasses to boot. He said he did not know any class of husbandry that was better protected than sheep husbandry. He closed by saying that every owner of sheep had a remedy at common law against the owners of dogs that injured his property.

Mr. MERRIAM, of Fitchburg, briefly spoke in favor of an amendment to the dog law, so that towns should not return the amount of money paid for licenses, but that they should enforce the law, and keep the money for a fund from which to pay damages.

It was announced that the subject for discussion at the next meeting would be, "*The most advantageous methods of improving pasture and meadow lands.*" The meeting then adjourned.

For the New England Farmer.

A NEW GRAPE.

MR. EDITOR:—There has been so much written and said of late, descriptive of many of the newer varieties of grapes, that I should maintain a profound silence, did I not think that I might do some service to a portion of your readers, by giving a description of a variety which came under my observation during the past autumn. It has been difficult for the past three years to thoroughly ripen any of the newer varieties of grapes, such as the Catawba, Isabella, Diana and Concord, though the last two have, in southerly exposures, and with careful attention, succeeded fairly. Most of our New England horticulturists recommend for this latitude the three last named varieties, which, so far as quality goes, are unsurpassed, but are not sure to ripen sufficiently early to escape our severe frosts. What is particularly needed now is a variety which is sure to ripen at least two weeks earlier than the Concord, and I think such a one has been found. While in the nursery of Mr. GEO. BRYANT, last fall, I was shown a vine of what he called the Catawba Seedling; it was about the 10th of September when I saw it, the vine was of good size, trained on a trellis in the open nursery, and at this time nearly all the berries were turned, and most of them were nearly ripe. I ate a few, and found the quality very good, though not as thin skinned and pulpy as the Isabella or Diana; the berries are medium size; color, a dark purple; the bunches are of good size, very compact though not shouldered; the vine is very hardy, withstanding our winters without any protection.

I write this from actual experience, as I bought a vine of this kind two or three years ago, and it has withstood the past two winters without the least protection. I would not advise those who are about setting a few vines to purchase only this kind, but would ask them to set a portion of this in addition to the other varieties, on account of its hardiness and early ripening, not doubting that they will experience much satisfaction by so doing. J. N. N.

East Bridgewater, Jan., 1861.

ORNAMENTAL HEDGES.

One of the most striking features of any country is its fences; so much so, that the various styles of these division lines seem to have almost as much influence in determining its character and general appearance, as the nose on a man's face has in giving expression to his physiognomy. Very many—in fact, the great majority of fences—are excessively ugly. Even those primitives ones in new countries, formed by turning up edgewise the spreading roots of great trees, have the merit of being picturesque—which some have not.

In England, the face of the country is made to wear an aspect of smiling cheerfulness by reason of its numerous hedges; while, in the opposite extreme, in France, where no obvious lines mark the divisions of property, the effect must be quite monotonous. Our own institution—the *rail fence*—may perhaps give a type of the independence of time and circumstance peculiar to the great American people, but it is not particularly ornamental.

There is no one who cannot appreciate, and will not acknowledge the great beauty of well kept hedges. So popular is the idea, that experiments have been made with almost every variety of hardy plants, with a view to test their efficiency in forming suitable hedges. Failure has followed very many of these attempts, and partial success rewarded others. Some few hold their own under all circumstances, as well adapted to make, with proper management, strong and efficient fences. Of these we will not speak, but leave Buckthorn and Hawthorn, Honey Locust and Osage Orange, each to assert its own claims to superiority as best it can.

But there are many situations where *screens* and *ornamental* fences only are required—not protection against depredators. Many such circumstances will suggest themselves to every one. As a means of shielding certain spots from cold winds, belts of trees or shrubbery are, oftentimes, very efficient, as well as ornamental; and for inside division lines, screens of hardy evergreens cannot be too highly recommended—being at the same time very beautiful, rapid in their growth, simple and easy in their construction, and managed without difficulty. To hide disagreeable and unsightly objects; to inclose portions of the garden devoted to half-hardy plants; to separate the kitchen garden from the more ornamental portions of the grounds; and for an indefinite variety of circumstances, each peculiar to its own locality, these evergreen screens are very happily adapted. They are becoming very popular wherever known.

Of all the evergreens employed for this purpose, the *American Arbor Vitæ (Thuya*, or, according to some botanists, *Biota, occidentalis,)* seems best adapted to succeed, for several reasons. It is easily and cheaply obtained, perfectly

hardy, and adapted to a great variety of soils and climates. It is native over a large portion of the American continent, and is found in almost every kind of soil and situation. Its form and normal mode of growth is *pyramidal*—just the *proper* form which we wish to encourage in forming a hedge. The natural tendency of the *Thorn* and *Osage Orange* is to grow into a spreading tree, large at the top, and thin at the bottom—just the opposite of what we seek, when striving to distort them into hedges. It is a continual battle, as it were, between man and nature, for the supremacy; and just in proportion as man is enabled to conquer, we say the plant is adapted to hedging; while if the plant is stubborn, and dies or droops under the treatment, we say it will not do for hedging—it is a humbug. Sometimes, as in the case of the Osage Orange, it seems to laugh at the efforts of man; and, while he sleeps, shoots up sturdily and fractiously, half-a-dozen times in a summer, into its old tree form, utterly regardless of what is going to become of the hedge beneath it.

Many of the new and foreign sorts of the Arbor Vitæ are very beautiful, but none of them have been sufficiently tested to warrant a recommendation of them for the purpose of which we are speaking. The *Siberian* is more compact in its growth than the *American*, and keeps its color well in winter; but it is also slower in growing, and moreover is scarce and high in price. The *Golden Arbor Vitæ*, although of a beautiful color, is, unfortunately, not quite hardy.

The accompanying engraving is an accurate drawing of a section of a screen, six years from setting, in the grounds of H. E. HOOKER & Co., Rochester, N. Y., now about four and a half feet high, perfectly smooth and dense, and an object of admiration to every one. On the same grounds is another hedge about three feet high, set out three years ago last spring, in length about 800 feet, in which only three plants were lost of the entire planting, and even *these* have never been replaced.

American Arbor Vitæ Hedge.

To give an idea of the method of forming and cultivating such a hedge is the object of this article. Attention to a few simple particulars will in a short time yield abundant satisfaction, and allow very few chances of failure.

In preparing to plant, have the ground deep, and dry, and mellow—not too much enriched with manure. Calculate for a border on either side of, say, four feet, which is to be *kept clean permanently*; and if the soil is mellow and rich, this forms a beautiful situation for the cultivation of low flowering plants, which appear to very pretty advantage in contrast with the deep green background of the Arbor Vitæ. Dwarf-growing roses—especially of shades of red—are very beautiful in such a contrast. Many other flowering plants will suggest themselves to every one.

After preparing the ground—which is always the first thing to be attended to in projecting a plantation of any kind—a very important point is choosing the proper kind of plants. If taken from the woods and planted without further education into the hedge row, probably not more than every other one would live, and of these one-half more would so far fall behind the rest in health and vigor as to make the entire planting a failure. If, then, you are to rely upon the woods and fields for a stock of plants, choose those as uniform in size as possible, not more than one foot in height, and well furnished with branches. Set them out in rows in well prepared ground, so that they may be cultivated and kept clean. In two years, the majority of them will have become handsome, stocky plants; and, when taken up, will be found to have a mass of fine fibrous roots, rendering them sure to live, and well adapted to thrive in their future resting-places.

However, these two years of time and labor may be saved; for plants like those described may generally be obtained at the nurseries very cheaply. And as a row of such plants becomes an object of beauty from the very commencement, we may consider that it is money well expended. In short, nothing, in all the operations of horticulture, yields so sure and quick returns as this.

Evergreens should always be set in the spring. When the plants are received and unpacked, carefully separate and spread open the roots: cut off all broken portions, lay them in the ground until ready to plant out, and by all means *avoid contact with wind and sun*. Puddle the roots in a mixture of water and clay, with a little decayed manure; then plant immediately by a line, taking care not to crowd the roots, but spread them out evenly; cover them with fine earth, and press the ground firmly about the plant. It is well to mulch the ground with coarse manure, but it is not necessary—always supposing the border to be kept well cultivated.

The proper distance for planting is about one foot apart. Nothing is gained by having more than a single row of plants.

The after culture is exceedingly simple and easily remembered. During the first year the plants need nothing but to be kept clean—occasionally, perhaps, cutting off a straggling shoot. The second spring from setting, stretch a line firmly and evenly across the top of the plants, and cut off all shoots appearing above the line. Stretch the line again on either side, at the base of the plants, and trim up to it. Thus we have the bottom or base, and the apex of the hedge

fixed, and if these are true, the rest becomes easy. Shear all off evenly between these points, and we have the form of a triangular prism, which, in the opinion of the writer, is the best, both as regards beauty and well-being of the hedge. Practically, it should not be sheared quite to a point on top, but nearly so. The shape of the one represented in the drawing is varied a little from that described, by being rounded a little; but in practice it is difficult to make this perfectly true, which mars the beauty of the whole. However, every one may consult his own taste; and skill in manipulating the shears is only gained by experience. After the third year, the hedge needs only to be trimmed evenly at midsummer, and it will soon become dense and smooth.—*Rural Annual.*

EXTRACTS AND REPLIES.

BITING HORSES—UPLAND CRANBERRIES—ESSAY ON MANURES.

You tell us, and tell truly, that to whip a contrary horse is not the way. How is it in regard to a disposition to bite? Can this be corrected by the whip?

Does it pay, as a general thing, to attempt to cultivate the upland cranberry? If so, where can plants be obtained, with directions as to soil, cultivation, &c.?

Where can Reynolds' "Essay on Manures" be obtained? E.

Framingham, Jan. 19, 1861.

REMARKS.—*Kindness*, if anything, will cure a horse of any bad habit. The law of love will do more for any creature, man or beast, than all the parchment laws that were ever framed. Make the horse understand by all the means in your power that you are his friend—that you will not hurt him, and you will soon find a wonderful sympathy growing up between you. This is the whole secret of Mr. Rarey's wonderful power over horses.

Cranberries can be raised on moist upland. Get the plants from some meadow in your neighborhood that produces good fruit.

A few copies of Reynolds' "Essay on Manures," might, perhaps, be obtained from him at Concord, or of the Massachusetts Society for the Promotion of Agriculture.

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A GOOD HORSE CART.

If the following is regarded by you an answer to the inquiry for a description of a good horse cart, you can use it.

In the spring of 1856, I concluded to do my work with a horse, and wanted a wagon and cart both, which lead me to conceive of the plan. I had a stout wagon built. The fore-axles were 1¾ inches, hind 1½ inch, tire 2 inches wide; otherwise light as could be to correspond. Had the rocker and hind axle connected by three pieces, the same as a light wagon, the body connected to these by bolts, which may at pleasure be taken out and the body placed back on the hind wheels and attached by hooks so that it will tip as a cart.

The only disadvantages are, it requires more room to turn than with two wheels, and the fore wheels are somewhat in the way about unloading. The advantages are, a horse works much easier than on two wheels, and I think will draw more over plowed ground and rough land. The short body is easily laid aside, and a long rack put on for hay by bolting this extra rocker up to the rack body. The economy is, the one carriage answers every purpose of farm work, saving also extra harness. After so long trial, I would not exchange for cart and wagon.

Londonderry, N. H., 1861. J. A. HOLMES.

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REMEDY FOR CHOKED CATTLE.

I noticed the inquiry in the *Farmer* for some remedy to relieve choked cattle, and have read the several answers. Permit me, Mr. Editor, from actual observation, to give my experience. A few months ago, while on a visit to a friend, a valuable ox was choked with a large potato while driving through the potato field; the ox appeared in great distress, and began to bloat very badly. It was evident he could not live long unless relieved. The usual remedies were talked over, when an old lady came to the rescue. She said that in her younger days they used to turn down warm lard in such a case. Accordingly the ox's head was fastened and about a pint of warm lard turned down his throat through a tin horn, and in less than two minutes the potato was thrown to the ground.

WASHING FLUID.

Can you, or some of your subscribers, give a good recipe for washing fluid, and thus help an old lady to keep good natured on washing day?

Bridgeport, Vt., Jan., 1861. EXPERIENCE.

HOT BEDS.—You who love the garden, and intend that your tables shall be graced with the delicacies of the season, will not forget to prepare the hot bed in good time. Do not look upon it as a *scientific* operation, one requiring a carpenter or any other artizan to construct it, but take the square, saw and hammer, and make it yourself in double-quick-time. Purchase the sash, if you have no old ones. In some sheltered and sunny spot, throw out the earth to the depth of a foot, fill in with horse manure, and on that six inches of fine loam or leaf mould, and put on the glass. Water properly, and when the whole is sufficiently warm, put in the seeds.

A HOT BED IN THE KITCHEN.—A peck measure, an old box or earthen pot may be filled with proper soil, and tomatoes, lettuce, radishes, cabbages and other edibles started successfully without the cost of anything but a little pleasant care—and the pleasure of seeing them burst into life, and grow, will repay all this, to say nothing of the fun of eating them. Will the women see that this is done?

WORCESTER AGRICULTURAL SOCIETY. — Through the attention of the President, we have read the Transactions of the Worcester County Agricultural Society for the year 1860, being the *forty-second* annual report! It contains no address, as has been usual. The first report is upon Sheep—A. G. HILL, Chairman, and says—

"It has been asserted—and we have no reason to doubt the fact—that to a pasture that will keep a given number of cows, as many sheep may be added without impairing its fertility. And as six sheep require about the same amount of food as a cow, per day,—or 2½ or 3 per cent. of their weight,—it will be seen that a farmer can pasture a few sheep with his neat stock, with little or no added expense, and at the same time increase the fertility of the land. By stabling our dairy cows at night as is the general custom, our pastures are becoming rapidly exhausted."

It has a long and excellent report upon *Fruit*, by SAMUEL A. CUSHING. Is Mr. Cushing acquainted with the "Hunt Russet" apple?

The officers for 1861 are, *President*, WILLIAM S. LINCOLN, Worcester. *Vice-Presidents*, GEORGE HOBBS, Worcester; AUGUSTUS G. HILL, Harvard. *Recording and Corresponding Secretary*, JOHN D. WASHBURN, Worcester. *Treasurer*, CHARLES M. MILES, Worcester.

STIFLE JOINT LAMENESS is apt to affect young colts, and is produced by the wearing away of the toe. It is in fact the dislocation of the patella or knee pan. It is most prevalent when the animal is kept on hard, hilly ground. The best remedy is to have him shod, and remove him to level ground.

HORTICULTURAL HINTS.

THE SWEET PEA.—One of the most beautiful and fragrant of our annual flowers, is the sweet pea. It is a little singular that it is so little cultivated, when we consider how easy its cultivation is, how graceful, varied and beautiful its flowers, and how delightful their perfume. The colors of the flowers are white, scarlet, rose, purple, variegated and black. A hybrid sweet pea has been raised by an English florist, Capt. Clarke, being a cross between the "painted lady" and "purple sweet pea." This beautiful variety has upper petals of a delicate rose color, and the lower ones white, with a deep blue edge.

The sweet pea, in good ground, will grow six feet high, and will make a handsome screen or covering for a fence. They will require a trellis or frame of some sort for support, or they will cling to strings. If brush should be used, as for garden peas, care should be taken to select the best, so that until it is covered with the vines it may be as unobjectionable as possible. At best, however, brush is unsightly, and should never be used if a frame or trellis of any sort can be procured.

The sweet pea, like the common garden peas, may be planted as early in the season as the ground is in fit condition. It will be necessary to plant for succession in June, although if the flowers are cut when they begin to wither, and not allowed to mature their seeds, they will continue in bloom a great length of time, particularly if the season be moist.

The flowers are valuable for bouquets, being both beautiful in appearance and delicious in perfume, qualities not often combined in the same flower.—*Country Gentleman.*

GROWING HYACINTHS IN GLASSES.—The following directions are given in the *Irish Farmer's Gazette*, in answer to an inquiry:

If your hyacinths are grown in glasses with water, dark colored glasses are best, and the water should not be allowed to rise more than to touch the bottom of the bulb; otherwise they will rot. When first put in the glasses, they should be stored away in a dark, cool place, till the roots are about an inch long. If the roots do not grow vigorously, give two or three drops of hartshorn in each fresh supply of water, and put in the glass a small lump of charcoal. The water should be changed every fortnight, or three weeks at farthest; but to do this the plant must not be taken out, but the glass held horizontally, and the water poured off. Soft or rain water should always be used. By this mode of treatment, and not keeping them in too warm or close a place, they will bloom beautifully. If you grow them in pots, they should have plenty of light and air, that they be not too much drawn. The bottom of the pot should have plenty of broken tiles in it, to allow of perfect drainage; and be frequently, but moderately supplied with water. It is very destructive to them to be placed in saucers filled with water. The saucers should be kept dry. Any drainage pouring into it from the pot should be removed; so that the drainage may always be perfect. Whether in pots or glasses, the flowers should be well supported with sticks, or they will get top-heavy, fall down, and get destroyed, and shift the plants round a little every day, to prevent them growing to one side.

HYACINTHS.—A correspondent asks us, "Why do hyacinth bulbs, if grown in water, exhaust themselves in a single season, while, if grown in soil, they will last three or four years?"

Answer.—The amount of inorganic matter furnished by the water is sufficient to give such a result as will last during the season. An organism to be perfect, must be supplied with as much inorganic matter as it is capable of appropriating, to complete itself; in other words, the same amount, and in the same state of progression as that which would be exhibited in the ashes of a healthy plant of the same kind if burnt.—*Working Farmer.*

HARDY CLIMBING ROSES.—A good assortment of these are: Prairie Queen, bright rose, very double; Baltimore Belle, white, clusters. A good, hardy yellow can only be had among the briar sorts, of which the Harrisonii is a fine brilliant variety. For purple, take the Boursault Purpurea. Anne Maria, a rosy pink, and Mrs. Hovey, a pure white, are also good sorts.—*American Agriculturist.*

EVERBEARING RASPBERRIES.—There is no reason why we may not one day have perpetual raspberries as well as perpetual roses; there is nothing unreasonable or impossible in it, but yet we have not seen anything of the kind. People will differ in their tastes, and some wish to have raspberries, or some other distinctive variety of fruit ever before them, while others of us think that the gradual succession in the natural order of ripening of different kinds of fruits, from early summer to the end of winter, is more in accordance with the intent of the wise Giver of all these good gifts.—DR. WARDER, *in Cincinnatus.*

PARISIAN MODE OF ROASTING APPLES.—Select the largest apples; scoop out the core without cutting quite through; fill the hollow with butter and fine, soft sugar; let them roast in a slow oven, and serve up with the syrup.—*Maine Farmer.*

LADIES' DEPARTMENT.

FOR WHAT CHILDREN ARE MOST GRATEFUL.

Parents spend a life of toil in order to leave their children wealth, to secure them social position or other worldly advantages. I do not underrate the worth of these things. Had they not been valuable, there would not have been so many providential arrangements impelling men to seek them. I would not only show that there is something of infinitely greater value, not only to the parent, but to be transmitted to the child. What does the child most love to remember? I never heard a child express any gratification or pride that a parent had been too fond of accumulating money, though the child at that moment, was enjoying that accumulation. But I have heard children, though their inheritance had been crippled and cut down by it, say, with a glow of satisfaction on their features, that a parent had been too kind-hearted, too hospitable, too liberal and public-spirited, to be a very prosperous man. A parent who leaves nothing but wealth, or similar social advantages, to his children, is apt to be speedily forgotten.

However it ought to be, parents are not particularly held in honor by children because of the worldly advantages they leave them. These are received as a matter of course. There is comparatively little gratitude for this. The heir of an empire hardly thanks him who bequeathed it. He more often endeavors before his time to thrust him from his throne. But let a child be able to say, My father was a just man, he was affectionate in his home, he was tender-hearted, he was useful in the community and loved to do good in society, he was a helper of the young, the poor, the unfortunate, he was a man of principle, liberal, upright, devout—and the child's memory cleaves to that parent. He honors him, reveres him, treasures his name and his memory, thinks himself blest in having had such a parent, and the older he grows, instead of forgetting, only reveres and honors and remembers him the more. Here is experience and affection sitting in judgment on human attainments. It shows what is most worth the seeking.—*Ephraim Peabody.*

LITTLE CHILDREN'S DRESSES---NAKED ARMS AND NECKS.

A distinguished physician, who died some years since in Paris, declared: "I believe that during the twenty-six years I have practiced my profession in this city, 20,000 children have been carried to the cemeteries, a sacrifice to the absurd custom of exposing their arms naked."

I have often thought, if a mother were anxious to show the soft, white skin of her baby, and would cut a round hole in the little thing's dress, just over the heart, and then carry it about for observation by the company, it would do very little harm. But to expose the baby's arms, members so far removed from the heart, and with such feeble circulation at best, is a most pernicious practice.

Put the bulb of a thermometer in a baby's mouth; the mercury rises to 99 degrees. Now carry the same bulb to its little hand; if the arms be bare and the evening cool, the mercury will sink 40 degrees. Of course, all the blood which flows through these arms and hands must fall from 20 to 40 degrees below the temperature of the heart. Need I say that when these cold currents of blood flow back into the chest, the child's general vitality must be more or less compromised? And need I add that we ought not to be surprised at its frequently occasioning affections of the lungs, throat and stomach?

I have seen more than one child with habitual cough and hoarseness, or choking with mucus, entirely and permanently relieved by simply keeping its arms and hands warm. Every observing and progressive physician has daily opportunities to witness the same simple cure.—*Lewis's New Gymnastics.*

WEDDING CEREMONIES ON THE ALPS.—There are still many of the old customs remaining, of which one of the most peculiar is the wedding, which has some of the features of those in the northern part of Germany. An orator is the bearer of invitations, who is often the village school-master. He makes a formal speech before every house, which all the people run to near. On the morning of the wedding, he accompanies the bridegroom and groomsmen to the house of the bride, where they breakfast together; after which he makes a speech to the father and mother, recounting to them all the noble qualities of the bridegroom, and beseeching them to give their daughter willingly away, as he is sure a long life of happiness is in store for her. A rival orator then "takes the word," and presents the dark side of the picture, all the difficulties of the new position and the virtues of the bride. After this parliamentary discussion, the bride departs with her betrothed for church, amidst prayers and tears, and good wishes: and to keep up her spirits, musicians cheer her way with song.—*The Cottages of the Alps, by a Lady.*

DELICACY.—Shame is a feeling of profanation. Friendship, love and piety ought to be handled with a sort of mysterious secrecy; they ought to be spoken of only in the rare moments of perfect confidence—to be mutually understood in silence. Many things are too delicate to be thought; many more, to be spoken.—*Novalis.*